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T H E

COMMENTARIES

UPON THE

A P H O R I S M S

O F

Dr. HERMAN BOERHAAVE,

The late Learned Professor of Physick in the
Univerſity of LEYDEN,

C O N C E R N I N G

The KNOWLEDGE and CURE of the ſeveral
DISEASES incident to HUMAN BODIES.

By GERARD VAN SWIETEN, M.D.

Translated into ENGLISH.

V O L. XIII.

L O N D O N:

Printed for ROBERT HORSFIELD in Ludgate-Street,

A N D

THOMAS LONGMAN in Pater-noſter Row.

M DCC LXV.

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VOL. XII.

LONDON:



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THE
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OF THE
THIRTEENTH VOLUME

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THE

COMMENTARIES

UPON THE

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OF

HERMAN BOERHAAVE,

CONCERNING THE

KNOWLEDGE and CURE of DISEASES.

The G O U T.

S E C T. MCCLIV.

THAT disorder, so exceeding painful, which infests all about the ligaments, and articulation of the bones of the foot, renewing its attack, for the most part, in the spring and autumn, is what we commonly call the gout.

Here the point in view is to determine on the most exact definition of this disorder, by which it may, with the greatest precision, be distinguished from all others ; whence it becomes necessary to consider this disease as intirely simple, and altogether unconnected with any other kind of distemper whatever.

For although, as we shall see afterwards, it may seize on many other parts, and from thence acquire another appellation; yet the foot is the place on which it always makes the first attack (see § 1259). Hence the origin of the name Ποδάγρα χαλᾶμαι γιγνομένη πονδων ἄγρα. *Podagra vocor, quasi pedum captura sim*^a. “I am called the gout, making the feet, as it were, my prey.” We need be at no loss therefore about what name is to be applied to this disease, whenever it fixes on any other place; it is only joining that cruel epithet *agra*^b to the name of the part affected: thus, when the hands, for instance, are seized, it is called *chiragra*; when the knees, *gonagra*; and so forth. *Nam pedem, genu, acetabulum, coxendices, femora, manus, scapulas, brachia, rostra, carpos, addit, depascitur, urit, tenet, inflammat, coquit*^c. “For it takes hold of all these parts, the foot, knee, sockets of the joints, hips, thighs, hands, blade bones, bones of the nose, arms and wrists, gnawing, wasting, burning, inflaming, and vexing them at the most painful rate.”

This baleful, this inauspicious term, the gout, is however, in a more peculiar manner offensive to the generality of patients, who, for the first time, lie under the pangs of this disorder, well knowing how highly the brotherhood divert themselves at the expence of a new fellow-sufferer; and should they acknowledge the real name, *ab amicis omnibus in triumpho ducitur*^d; “it would be matter of triumph to all their acquaintance:” for this reason they would fain conceal the disease, and are ready to ascribe the pains they endure to any other cause than the true; nay, so far as sometimes to be in the utmost rage of displeasure with any physician who but ventures to drop the smallest hint concerning the real name of the distemper. The desire, in gouty patients, of disguising the

^a Lucian Tragopod. Tom. III. pag. 656.

^b Ibid. p. 671.

^c Ibidem, p. 652. ^d Ibid. 655, & 665.

the real cause of their complaints, has been taken notice of by *Aretæus* ^e. *Aliqui novæ crepidæ attritum ; aliqui longam obambulationem ; alius plagam, aut calcationem ; nullus intestinam domesticamque causam explicabit : quin etiam ægrotis, verum audientibus incredibile esse videtur.* “ Some pretend it is the wearing a “ new pair of shoes ; others, that it is by walking “ too much : one says it is a blow, another a sudden kick ; but none will so much as mention the “ true secret and domestick source of this disorder : “ and even the patients themselves, when they are “ told the real truth, cannot by any means be brought “ to believe it.” Like instances of dissimulation, in gouty people, are also mentioned by *Cælius Aurelianus* ^f ; at length, *necessitate coacti, augmenti temporibus, in confessionem veniunt ægrotantes ;* “ by mere necessity, “ during the severity of the fits, they are brought to “ a confession.” It is seldom, however, that any, on the first attack, will allow of its being called the gout, until *hæc passio initio parvitatæ causa negligitur, & contempta convalescit* ^g. “ This disorder, in the beginning, being only slight, and therefore not much “ minded, from this very neglect acquires new degrees of strength and vigour.”

But as the term *arthritidis*, arthritick pains, is in general less displeasing ; most sick people, even physicians too, conceal the gout under this appellation, till the return of a regular fit puts it beyond all manner of uncertainty. This, in reality, is the more excusable, as physicians of the first eminence have, in the same manner, ranked the gout as a species under the general term *arthritidis*. Thus *Fernelius* ^h says, *Statuuntur autem arthritidis differentię ex articularum numero : sed tribus duntaxat usus nomina indidit : hæ sunt chiragra, ischias & podagra : quæcunque in*

B 2

alio

^e De caus. & sign. morbor. diurn. Lib. II. cap. 12. pag. 66.

^f Morb. chron. Lib. V. cap. 2. pag. 560. ^g Ibidem.

^h Patholog. Lib. VI. cap. 18. Tom. II. pag. 22.

alio quovis figitur articulo, generis nomine arthritidis appellatur. “ The different species of arthritis are reckoned as many as there are different joints : custom, however, has given names only to three ; these are, *chiragra*, *ischias* and *podagra* : but pain of any kind lodged in any other joint is classed under the general denomination arthritick.

In the mean time, we know for certain, that, among the gouty class, especially those who have undergone several fits, when the disorder has got up into the knee, it never, even then, has been termed *arthritidis*, but always *gonagra*. The antients besides have evidently distinguished this distemper from all other disorders of the joints. Thus *Hippocrates*¹, speaking of these same disorders, says, *At quibus circa articulos dolores fiunt & tumores, & sedantur non podagrigo modo, in his comperies viscera magna, & in urina subsidentiam albam; & talis, si tempora elevarit, dicet se sæpe dolere, dicet etiam sudores sibi nocturnos oriri : si vero neque in urina subsidet talis subsidentia, neque sudores fiunt, periculum est ne aut claudiciant articuli, vel quod melicerida vocant, sub ipsis nascatur.* “ But as to those who have pains and swellings about the joints, that go off in a way different from the gout ; in them you will observe the bowels enlarged, a white sediment in their urine ; such, on raising the head, will complain of frequent pains ; they complain too of nocturnal sweats : but if there appear no such sediment in the urine, nor any nocturnal sweats come on, there is reason to expect either a lameness of the joints, or the appearance of a tumour, called *meliceris*, immediately under them.” As a further proof of this, we find the *arthritidis* afflicting several, nay, sometimes all the joints of the body universally, but seldom or never the feet alone ; whence *Aretæus*^k seems to hold, *communis omnium articulorum dolor est arthritidis,*
sed

ⁱ Predict. Lib. II. cap. 91. Charter, Tom. VIII. page 827.

^k De cau. & sign. morb. diuturn. Lib. II. cap. 12. pag. 65.

sed pedum dolorem podagram vocamus, “ the arthritis “ to be the common suffering of all the joints, and “ the *podagra* that of the feet alone.” *Ægineta*¹ gives us the same *diagnosis*, calling it arthritick, when the disorder invades all the joints of the body.

Notwithstanding therefore the gout is sometimes confounded with the *arthritis*, yet it is plain they are distinct diseases : for although the gout, when inveterate, may seize on several other joints at one and the same time ; yet, in the first stage of this disorder, it never fails to attack the feet alone^m. Besides, the *arthritis* usually begins with a fever. *Podagra advertente nullo incurrit artubus*ⁿ. “ The gout, on the “ other hand, quickly takes possession of the joints “ without any previous sign or warning :” and notwithstanding belchings, crudities, and other marks, enumerated § 1257, do precede the returns of the fit, yet the first attack always comes on without any previous sign whatever ; inasmuch that I have known persons go to bed well, and wake in the middle of the night with exquisite pain.

Nay, I myself, not long ago, saw a gentleman, in the flower of his age, of a robust constitution, stepping out of a chariot, all at once struck with extreme pain, and who from this firmly concluded that his great toe was either violently sprained, or put out of joint : but the event at last proved it to be a true gout ; for, in a few days, the pain went off by degrees, leaving not the smallest trace behind, and, in about a year after, returned. We know too the first attacks of the gout are never lasting : in this they differ from arthritick pains, which are of a long duration, inasmuch that, if they begin their attack in autumn, they are hardly ever over before the spring : neither is it customary for them to have any regular return ; for many I have seen who have suffered exceedingly from this

B 3 disease,

¹ Lib. III. cap. 78. pag. 57. ^m Luc. Tom. III. pag. 666.

ⁿ Ibid. pag. 665.

disease, who have yet, during the remainder of their life, continued intirely free. Whence this remark of *Aretæus* °. *Haud facile quidem continua podagra gignitur, sed nonnunquam longo temporis intervallo intermititur; tenuis enim est & in ludis Olympicis podagricus, sedato morbo, cursu victoriam adeptus est.* “ We very
 “ seldom find indeed a fit of the gout which continues
 “ a very long time, tho’ we see very long intermissions
 “ sometimes happen between each fit. A person,
 “ during the Olympick games, hath been seized with
 “ a gentle fit of this distemper; yet going off soon,
 “ the same person hath run and gained the victory.”
 If therefore an unexpected pain, without any other manifest cause, seizing the extreme parts of the foot, shall in a few days vanish by degrees of itself, or by the use of gentle remedies, leaving not the least mark behind, we may then reasonably suspect it to be the gout; and still more so if the causes hereafter to be mentioned precede it: but it is confirmed, beyond all doubt, if the disorder return either in the spring or autumn, as *Hippocrates* remarks^p. *Podagrici affectus vere & autumnoplerumque moventur;* “ gouty complaints
 “ are, for the most part, set in motion in spring and
 “ autumn.” Here we must take special notice, *Hippocrates* says not the disease is produced, but seems to point out how the morbidick matter, secretly and by degrees accumulated, is stirred up, and disposed to wreck all its fury on the joints.

Galen, in his commentary on this^q place, remarks, that the spring is the season in which the return of the gout is principally to be dreaded; which is confirmed by *Lucian*^r, who has so well described this disease.

Sed.

° De caus. & sign. morbor. diuturn. Lib. II. cap. 12. page 67.

^p Sect. 6. Aphorism. 55. Charter. Tom. IX. pag. 287.

^q Sect. 6. Aphorism. 55. Chart. Tom. IX. pag. 287.

^r Tom. III. pag. 641, 651, 652.

*Sed quando ulmi vere tener flos abundat,
Et arguta cantat in ramis merula,
Tunc per membra acutum telum hæret mystes
Obscurum, latens, subiens recessus artuum.*

“ But when the flow’ry elms declare the spring,
“ And the shrill blackbirds on the branches sing,
“ Then thro’ our limbs her pointed arrow glides,
“ Ent’ring unseen, and in the joints resides.

S E C T. MCCLV.

THIS distemper, always uniform, however differently produced, when allowed to go on undisturbed, in its own natural and regular course, is a general attendant on persons of riper years, thirty and upwards: of the male sex: of deep understanding, close application, and who protract their studies till late in the night: who eat luxuriously: who spend the night in drinking largely of sharp, white wines, or strong, spirituous liquors: who have indulged too early in venery, or to too great an excess: of a large, full, and gross habit of body: such as are too much addicted to acids: or cool their sweaty feet too suddenly: that sweat in wet stockings or shoes: hence the danger of hunting and riding in cold weather: such as have it transmitted by inheritance from a parent who sometimes escapes himself: and lastly, such as catch it by contagion from a gouty person.

It would seem, as will hereafter appear still more evident, that there is a something imperceptibly accu-

mulated in the body, which, derived afterwards to the feet, produces the paroxysms of the gout: for though this disease may owe its rise to very different causes, yet the course it takes, when produced, is similar in every respect; whether handed down by a hereditary family taint, or sprung from errors committed in the general way of living. This is however only to be understood when the disease has not been disturbed in its natural course by improper remedies, or any other cause: for if the gouty matter be not deposited in the proper place, or, if deposited, it is by any means repelled; then indeed there arise symptoms altogether irregular and uncommon; which however vanish again, as soon as the feet begin to be severely pained.

On persons of riper years, &c.] *Hippocrates* * held, that boys before the exercise of venery were not liable to the gout: and elsewhere † numbers the gout among the diseases that do not appear before the age of puberty: which is confirmed too by *Galen* ‡, in his commentary upon this aphorism, who says he had seen eunuchs indeed taken with this disorder, but never any boys; and if at any time somewhat like it has happened to children, such as swellings in the joints of the knees and hands, it seemed rather to be a species of the arthritis, *propter plethoram ex multis cruditatibus acervatam*, “ occasioned by a plethora arising from “ a number of crudities.” For it appears, that the arthritis, as well as the rheumatism, has often been described under the name of *podagra*: hence in *Athæneus* § we read the following account. *Pythermus memoriæ tradidit, ut fert Egesander, ævo suo moros annis viginti fructum non dedisse, & epidemiam podagricorum talem factam fuisse, ut non tantum viros, sed etiam pueros, eunuchos, virgines, mulieres,*

* Sect. 6. Aphor. 30. Charter. Tom. IX. page 264.

† Coac. Prænot. N 512. Charter. Tom. VIII. page 882.

‡ Charter. Tom. IX. 264.

§ Athæn. Dapnosoph. Lib. II. page 26.

mulieres, is morbus corripuerit; quin & eam ægritudinem, tam vehementer sævisse in greges, ut ovium partes duas ille morbus affligerit. “Pythermus hath recorded, “as we have it from *Egesander*, that in his time the “mulberry trees bore no fruit for twenty years together; and that the gout became so generally epidemical, as not only to afflict grown men, but “likewise boys, eunuchs, married women, and young “virgins, all suffered from this disease. It raged “too even among the cattle, in so violent a manner, “that the best part of all the sheep were seized with “this same distemper.” Now, as the mulberry, *novissima urbanarum germinet, nec nisi exacto frigore, ob id sapientissima arborum dicta**, “of all the trees in the “garden, comes forth the latest, and never till the “cold weather is gone, and therefore called the “wisest of trees;” it is but reasonable to conclude, that the unusual degree of cold, at that time, was such as might greatly favour the production of the rheumatism and arthritick disorders: for I do not know, from any well-attested instance, that a true genuine gout ever afflicted the human race after the manner of an epidemical disease.

† *Sydenham*, in like manner, assures us from his own observation, that he had never seen either children or striplings affected with a true and genuine gout: some indeed he saw, *quorum nempe patres etiam tunc hoc morbo tenerenter, cum iis generandis operam darent;* “whose fathers, at the time of begetting them, were “confined by this disorder;” that felt a gentle irritation, as it were, foreboding it, before they reached the age of maturity. *Aretæus*‡ too held the same opinion, with regard to this disease being peculiar to the riper years of manhood; when he says, *Ætas autem huic morbo subjecta est a quinque annis super triginta; celerius quoque, aut tardius, ex cujusque natura & vivendi ratione.*

“For

* *Plin. secund. hist. nat. Lib. XVI. cap. 25. page 390.*

† *Tractat. de podagr. p. 556.*

‡ *De caus. & sign. morb. diuturn. Lib. II. cap. 12. page 67.*

“ For the age liable to this distemper is, from five
 “ and thirty and upwards, sooner or later, according
 “ to the difference of constitution and manner of
 “ living.”

The male sex.] However certain it is that women are less subject to this disease than men, yet they by no means escape altogether free. *Hippocrates*^a has said, *Mulier podagra non laborat, nisi ipsi menstrua defecerint*; “ that a woman is not liable to the gout, “ unless she is deficient in her menstrual discharges.” But we know, from undoubted experience, that several of the fair sex have been attacked by this disease, notwithstanding they had these discharges in great abundance and regularity: but this, indeed, is more frequently the case with those in whose family it has been hereditary, than with others, who have it from a different cause. *Seneca*, glancing on the degeneracy of manners in his days, says^b, *Non mutata fœminarum natura, sed vita est; nam cum virorum licentiam æquaverint, corporum quoque virilium vitia æquaverunt*. “ The nature of women is not altered, but their
 “ manner of living; for while they come up with
 “ the men in every kind of licentiousness, they equal
 “ them too in their very bodily disorders.” And a little after he thus excuses *Hippocrates*, *Quid ergo mirandum est, maximum medicorum ac naturæ peritissimum, in mendacio prebendi, cum tot fœminæ podagricæ, calvæque sint? Beneficium sexus suis vitiis perdiderunt, & quia fœminam exuerunt, damnatæ sunt morbis virilibus*. “ Why
 “ need we then be surpris'd at seeing so many of
 “ the female sex afflicted with the gout, and also
 “ with baldness, contrary to the maxims of *Hippocrates*,
 “ the greatest of physicians, and the best acquainted
 “ with nature? seeing they have by their vices
 “ thrown away the natural advantage of their own
 “ sex, and by putting off the woman are doomed
 “ to

^a Sect. 6. Aph. 29. Chart. Tom. IX. page 265.

^b Epist. 95. page 600.

“ to suffer all the diseases peculiar to the other.”

Hence *Aretæus*^c seems to express it very well, where he says, *Viri facilius in hunc morbum incidunt, & ex mulieribus agiliores. Mulieres autem, licet rarius quam viri, difficilius laborant; quod enim neque usitatum, neque familiare est, si ex necessitate potentius evaserit, violentum cum sit, majorem calamitatem insert.* “ Men,

“ and the more active among women, are chiefly
“ liable to this disorder; but women, though not
“ so often afflicted, yet do suffer more severely;
“ for the distemper in itself is naturally violent,
“ and being neither customary, nor familiar to them,
“ must, on that account, acquire an additional force,
“ and consequently occasion a greater degree of
“ sufferance.”

The observation too of *Sydenham*^d confirms this opinion, for he says, that he very seldom found any of the fair sex afflicted with the gout, unless it were some old women, or viragos, that led a masculine kind of life; but that he had frequently met with women, of a lean habit of body, who in their youth, or more advanced life, had experienced complaints similar to those of the gout, affected with hysteric and rheumatick disorders, of which they never afterwards could get thoroughly cured.

In the mean time it is necessary to remark, that though *Seneca* asserts it to be the opinion of *Hippocrates*, that women are neither subject to the gout, nor to baldness; yet in the aphorism^e cited, there is not any mention made of baldness; but in that which immediately goes before it, he says, *Eunuchi neque podagra laborant, neque calvi fiunt;* “ eunuchs are
“ neither troubled with the gout, nor grow bald:” which very aphorism was afterwards warmly opposed by a number of physicians, inveterate enemies to the antients, who flourished particularly in the days
when,

^c Loco ante citato.

^d Ibid. loco citato.

^e Charter. Tom. IX. page 264.

when, immediately after *Paracelsus* and *Helmont*, the chemists had got possession of the schools of physick.

Heinsius ^f in like manner, in his Apocryphal Oracles of *Hippocrates*, for so he terms the aphorisms of that great man, triumphs in a very petulant and outrageous manner; because he himself had seen some of the young of both sexes, that laboured under this disorder from an hereditary taint, and knew two eunuchs in particular, who were miserably afflicted with this distemper.

But if we consider that at the time when *Hippocrates* lived, it does not appear, by any means, a thing customary with the Græcians, to admit eunuchs among their slaves: however, a considerable part of Greece being under the dominion of the Persian empire, the satrapæ or governours kept indeed, among their slaves, a great number of eunuchs, whose habit of body, manner of living, and particular diseases, *Hippocrates* had, no doubt, a good opportunity of examining: more especially as he not only visited a great many foreign parts himself, but also had a correspondence with a great number of his scholars, who going out to all quarters of the world, sent him generally a faithful account of every thing curious that came under their observation. Now, all the time of *Hippocrates*, and for a great while after, the Persians, by the most exact and rigorous laws, preserved a frugal and temperate manner of life, and the strictest discipline in the education of their youth, there being no one whatsoever allowed to indulge in idleness; not even the children of their princes being exempted, by way of privilege, beyond those of every other individual: seeing therefore the eunuchs were, by the very practice of the country, obliged to a temperate life, besides being, for the most part, as guards, set over the apartments of the women; it is plain they could not
be

^f Naawk eurige Verhandeling van het podagra. page 23, 28.

be at all subject to many of the principal causes, which, for the most part, produce the gout. See a learned dissertation, wrote on Aphorism 28. Sect. 6^s. well worthy of perusal, where every thing, relative to this head, is treated at full length, and *Hippocrates* strenuously defended against all his calumniators.

What we have said above, is yet farther confirmed by *Galen*, in his commentary on this aphorism^a; where he says, *Cæterum eunuchos podagra non laborare, Hippocratis quidem tempore, verum erat; nunc vero non amplius, tum propter nimium otium, tum simul victus intemperantiam*; “that eunuchs, indeed, in *Hippocrates*’s days, were never subject to the gout, was “very certain; but in these present times it was no “more so; owing intirely to too much indulgence in an “idle, as well as intemperate manner of living.” A little afterwards he adds, *Talis enim est eorum desidia, tanta ingluvies & crapula, ut etiam absque veneris usu corripì possint podagra.* “For notwithstanding their “being secluded from the use of venery, yet their “sloth, their gluttony and cramming, were such, as “to be sufficient in themselves, without any other “cause, to bring on the gout.”

Men of deep thought, &c.] *Celsus* saysⁱ, that the cure of diseases must be coeval with the contemplation of nature, or philosophy, because they in a particular manner require the assistance of medicine, *qui corporum suorum robora inquieta cogitatione, nocturnaue vigilia, minuerant*, “who by intense thinking, and “want of natural rest, impair their bodily strength.” Many there are, without doubt, that lead a chaste and sober life, having no reason to suspect a hereditary taint, who yet are miserably afflicted by this distemper: they grow pale amid their books, and, though often pressed by their physicians, will not take the due exercise necessary to recruit that waste occasioned by too in-

^a A Barthol. Hermaan de Moor. Lugdun. Batav. 1736.

^b Charter. Tom. IX. page 264.

ⁱ In præfat. page 2.

intemperate an application to study. ^k *Latenter enim longis meditationibus contrahitur morbus*; “for the
 “disease steals imperceptibly upon those addicted to
 “long meditation.” Besides, during a constant, continued stretch of thought, the finer parts of our fluids are drawn off, and what remains rendered more sluggish (see § 1093.) The studious therefore, by giving their bodies no exercise or motion, greatly hinder the digestion of their aliment; and this indigestion may, with good reason, be looked upon as the more immediate cause of this distemper, as we shall see more particularly when we come to § 1265.

^l *Sydenham*, who for many years laboured under this disease, considered it as a matter of comfort to himself, and fellow sufferers, that kings, commanders, and philosophers, were more frequently than others afflicted with the same, insomuch as, *ut verbo dicerit arularius ille morbus, (quod vix de quovis alio affirmaveris) divites plures interemit, quam pauperes; plures sapientes, quam fatuos. Natura quasi digito monstrante, quam parum iniqua sit omnium parens & arbitra, quam partibus non studeat, cum eos quibus alicubi defuit alio aliquo bonorum genere cumulatus ditare soleat: profusionem erga alios munificentium æqua malorum parte admista diluat & contemperet.* “That he could say of the gout, what
 “could hardly be said of any other disease, that it
 “was the death of more rich people, than poor; of
 “more wise and sensible people, than fools or idiots;
 “nature, the wise and bountiful mother of all, pointing out to us, as it were with her finger, the wisdom, justice, and impartiality, of her distribution;
 “whilst she pours out, with unsparing hand, some kinds
 “of good on those who are greatly deficient in others;
 “thus tempering her seeming profusion of blessings,
 “by mixing them with a proportionate share of hardship
 “ship

^k Aret. Cappadoc. de caus. et sign. morb. diuturn. Lib. II. cap. 12. page 65. ^l De podagr. pag. 555, 556.

“ ship and inconvenience ^m.” The Laplanders, who, living contented with the simplest fare, employ their understandings the least of any, *talem morbum in mundo existere ne per somnium audiverunt*, “ never “ even dream of such a distemper existing in the “ world,” but continue active and agile through the whole of life. *Linnæus*, when much wearied and fatigued with his passage over the Alps, was astonished to see how little inconvenience two old Laplanders, who accompanied him in his journey, and carried part of his baggage, felt from the ruggedness of the paths; nay, he has seen old men, above seventy years of age, put their heels on their neck, as boys used to do, without the least trouble or inconvenience.

All nocturnal lucubration and study are particularly hurtful to constitutions inclined to this disease, insomuch that I myself have seen patients, who, having been long afflicted, found their complaints considerably increase by perusing even letters of their friends at too late an hour.

Who eat luxuriously.] Hence the gout is called the disease of the wealthy, and *μισόπτωχον θεά*, or poor-despising goddess, that sits inshrined in the feet of the rich. In this particular cause of the disorder all authors are agreed. *Sydenham* ⁿ, who was at the greatest pains to investigate this distemper, says, *Podagra eos plerumque senes invadit, qui postquam meliores vitæ dies mollius ac delectatius transigerint, epulis lautioribus, vino aliisque liquoribus spirituosiss, liberalius, indulgentes tandem ob pigritiam, ætatis ingravescentis semper comitem, ea corporis exercitia penitus omisere, quibus juvenes assueverant*. “ The gout, for the most “ part, invades those old gentlemen who have spent “ the healthiest part of their days in a voluptuous “ and delicate manner, having indulged themselves “ to excess in luxurious feeding, rich wines, and “ other

^m Lin. flor. Lapon. pag. 157.

ⁿ De podagra, pag. 545.

“ other strong spirituous liquors ; and now, through
 “ indolence, the sure attendant on old age, lay aside
 “ the brisk exercises to which they were accustomed
 “ during the younger part of their life ;” for as
 long as the body remains agile, and can bear the
 strongest exercises, it is then able to get the better of
 large quantities of food, and to digest it properly ;
 but when either the body begins to grow fat and un-
 wieldy, or to languish under the weight of years,
 they at the same time indulging their appetites as
 usual ; then in that case indeed they must very soon
 expect a visit from this distemper.

What mightily confirms the truth of this observa-
 tion is, that persons, by some accident or other ob-
 liged to live more abstemiously, have been intirely
 cured of this distemper, when the cause was owing
 to rich and dainty living. *Legimus quosdam morbo ar-*
ticulari & podagræ humoribus laborantes, proscriptio-
bonorum, ad simplicem mensam & pauperes cibos
reductos convaluisse ; caruerunt enim solitudine dispen-
sandæ domus, & epularum largitate, quæ corpus fran-
gunt & animam°. “ We read of some people, that
 “ had been much afflicted with arthritick and gouty
 “ disorders, who, upon the forfeiture of their goods,
 “ and being reduced to a spare diet, and simple
 “ manner of living, were recovered intirely to per-
 “ fect health : for then they were disengaged from
 “ the anxieties that attend the management of a large
 “ house and servants, and from the surfeiting plenty
 “ of a luxurious table, both equally injurious to the
 “ health of the mind, as well as to that of the body.”
 Many more instances of the like kind are to be found
 in *Skenckius* P. There is a story I myself have heard
 from several persons of undoubted credit, of a cer-
 tain priest, who enjoyed a rich living, and had been
 an old, constant sufferer in the gout, happening
 at

° S. Hieron. advers. Jovin. Lib. II. pag. 341.

P Observat. medic. Lib. II. pag. 681.

at last to be taken by the pirates of Barbary, was detained there for the space of two years a slave, and kept constantly at work in their galley; which had this good effect, that afterwards, when he was ransomed from captivity, having lost all his troublesome and monstrous fatness, he never once had a fit, though he lived several years after the event.

Sharp white wines, &c.] *Helmont*^a thought that the principal cause of gouty pains was owing to an acrimonious acid that vitiated the *synovia*, or unctuous liquor, which lubricates the inside of the joints, rendering it thick and grumous, and so of consequence unfit for that very purpose. *Ut juxta solitum tenorem sanitatis tota exhalet, absque capitis mortui residencia. Fitque hinc degener morbosus partus, infelix nodorum mater; suffert enim tum aquosarum partium distillationem, retentis ex opaca & indurata synovia residuis. Hinc illa monstra calx, & creta.* “ So that all the

“ healthier part of the *synovia* exhales, and leaves its

“ place filled up with a dead unactive matter: hence

“ springs that unnatural morbid offspring, which is

“ again the parent of these obstinate swellings called

“ nodes; for, by carrying off in exhalation the fine

“ liquid parts, and retaining the opaque indurated

“ particles of the *synovia*, it is thus productive of

“ stony concretions, chalk-stones, and other such

“ terrible consequences.” For this reason he condemns the drinking largely of white, sourish wines, which partake more of the nature of vinegar than of wine. Such wines, we find, were termed *ὀλιγοφώρα*, or weak wines, by the antients^r. *Est autem oligophorum quod, si diluatur, minimam sustinet aque mixtionem; sed est sane imbecillimum; nam quod plurimum aque in mistura, id tum vehementissimum est, tum validissimum. Ejusmodi vinum Hippocrates vinosum*

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C

nominat.

^a In capitulo, “ Volupe viventium morbus antiquitates patatatus,” pag. 314, 315.

^r Galen. method. medend. Lib. VII. cap. 6. Charter. Tom. X. pag. 163.

nominat. Verum ab hoc cavendum est, quoniam imbecillas vires ferit. At quod aquosum natura est, cæterum austerum, id percommodum est, quod & ab aquæ imbecillitate recessit, & vini noxam nondum habet. “*Oligophorum* is, of all wines, indeed, the most watery, and which can bear the least quantity of water to dilute it : it is therefore very weak indeed ; for wine is the more intoxicating, and of a firmer body, in proportion to the quantity of water it can bear. *Hippocrates* calls this a wine highly vinous ; but we must be cautious in prescribing this wine, as being too strong for persons of a weakly habit : it is much safer to give watery wine, provided it is rough and austere to the taste, because it neither has the weakening quality of water, nor yet the hurtful ones of stronger-bodied wines.” These weak wines therefore do not appear to be so prejudicial in their own nature, but are only too often drank in large quantities, being of a grateful taste, and more especially pleasing, in the heat of summer, to those who are thirsty.

But whether this acid, according to the doctrine of *Helmont*, be really the cause of gouty pains, is by no means as yet determined among physicians ; seeing that every fluid or solid part of the body, when examined chemically, exhibits no proof of an acid, but a volatile alkaline salt ; and even the gouty concretion itself dissolves intirely in acid liquors ; or, when distilled in a retort, yields a volatile alkaline spirit * ; not to mention the benefit gouty people have received from the use of sour milk, as we shall afterwards see more at large : but yet, since acrimony of the fluids is generally classed among the causes of the gout, (§ 1263.) it does not therefore hinder, but that, sometimes, even an acrimonious acid may very much contribute to produce this disorder ; and more especially

* *Philosop. Transact. num. 403. pag. 491. Abridg. Tom. VII. pag. 634.*

cially when such four wines are taken down constantly, and in large quantities : for then indeed, in course of time, the blood may be vitiated with an acrimonious acid, as we have already shewn in that chapter concerning spontaneous diseases from an acid humour.

We have, in the Medical Observations †, a most surprising case, which proves the existence of this acrimonious acid, of a person, who, during a fit of the gout, was almost distracted through the violence of the pain, which in a moment deserted his feet, and seized upon the calves of his legs with the same fury. In half a minute after, his legs and feet were easy, and he felt it in his thighs : then leaving his thighs, in the same space of time it ascended to the abdomen, and gave him most excruciating gripes in his intestines : at length, getting up to his stomach, it made him throw up a thin, greenish, sour kind of a liquor, so sharp as to equal the strongest mineral acids in acrimony. This patient, being by his profession a practitioner of surgery and pharmacy, was, on that account, no improper judge of these extraordinary circumstances. After he had thrown up, then, about three half pints of this acrid liquor, he was immediately eased of all his complaints, slept five hours, and, bating a little swelling and tenderness in the feet, nothing of the disease remained, so that in two days time he was able to go about his ordinary business. A like paroxysm returning in a year after, he was, in consequence of throwing up the like acrid liquor, relieved in a similar manner, inasmuch as to be able next day to walk abroad. In ten months after, all the same symptoms returned : but the quantity of acrid liquor which he brought up was so exceedingly lessened, as hardly to equal the eighth part of an ounce. He tried, indeed, to provoke the vomiting, by drinking

C 2

three

† Med. Observat. and Inquiries, Vol. I. pag. 4, & sequent.

three pints of warm water, and irritating the gullet with his finger : but all would not do ; yet what he he did throw up, gave him immediate relief.

This sudden ease from so furious an attack of the gout, after nature alone, without any assistance from art, had expelled this sharp acid liquor, seems mightily to favour the doctrine which holds an acrimonious acid to be one of the causes which produce the distemper.

There are other physicians of the highest reputation, who seem not averse to favour this same opinion. So *Hoffman* ^u, treating of this disease, thought, that notwithstanding *purum & sibi relictum acidum in animalium corporibus vix reperiri existimaret*, “ a pure
“ acid was seldom found alone and unmixed in the
“ bodies of animals ;” yet he asserts, that a tartareous acid may sometimes, though not always, be the cause of this disorder : nay, he afterwards adds from the experiments of *Clopton Havers*, *Attentione dignum est, nihil magis mucilaginem articulorum destruere, atque coagulare, quam acidum tartareum; sal lenius, v. g. acetum vini, vel vinum rubellum album : neque tantam mutationem, atque coagulationem ipsi inducere aliud potens, uti oleum vitrioli, &c.* “ It is very remarkable,
“ that nothing destroys and coagulates the mucilage
“ of the joints more than an acid salt of tartar ; for
“ example, the weaker vinegars, or the reddish
“ white wines : nor can you produce so great a change,
“ or so strong a coagulation, even by the powerful
“ acids, such as oil of vitriol, &c.” And from thence he concludes, that wines which abound with tartar are by far the most liable to occasion arthritick disorders.

What we have farther to observe concerning this matter, we purposely refer till we come to consider the nature of stony concretions and gouty chalk-stones.

Strong,

^u Medic. rational. & system. Tom IV. part. 2. pag. 506, & sequent.

Strong, spirituous liquors, &c.] How much the body is changed by the frequent and immoderate use of strong liquors, has been already shewn, (§ 605. 11.) There is nothing however more hurtful than protracting jolly drinking-bouts to midnight, as the sons of Bacchus seldom fail to do; for next day, when they have slept out their drink, what follows, but languor, loss of appetite, and immoderate thirst? but when once the indulgence becomes habitual, there is not an office of life they can perform till they have raised their languishing spirits with a stimulating glass: by this means the action of the stomach and viscera is almost wholly destroyed, or, at best, rendered languid and feeble; hence those continual indigestions to which the origin of the gout is so justly attributed, (§ 1265.) Those who drink hard have a ready excuse for this cause, by pointing out people who, notwithstanding they live soberly and abstemiously, are yet afflicted with this distemper; true; but then the gout may have its origin from many other different causes. We know it is equally certain too, that drinking and eating to excess, as oft as any other, give rise to this disorder.

I know indeed, that a celebrated physician at Paris^w, a few years since, published a treatise, wherein he considers this vitiated thickness of the humours as the most essential cause of the gout, and says, that this again arises, either from too strong and viscid aliment, or from the daily use of such liquors as have in their composition a great deal of that kind of matter: therefore he judged wines, that contained a larger share of acid salt and spirit, to be the best preservative against this distemper, as having the power of attenuating this visciditv; on the other hand, that all kinds of liquors, which contained more of a clammy matter, greatly favoured it; whence he concluded,

C 3

that

^w Leger traité de la goutte, p. 75, 96, &c.

that drinkers of beer were, for this very reason, of all others, the most liable to be seized with the gout.

Although many arguments may be brought against this opinion, it will be only necessary, I believe, to mention one. Formerly, when a frugal manner of living was more in use among the Dutch, beer was the only drink; not only a smaller kind, which they used at meals, and when they were thirsty; but a strong hearty sort, with which they loved to regale themselves in the evening, after the fatigues of the day. Wine rarely, or never was used, even by those who could very well afford it: and yet the gout hardly ever afflicted any that lived in this manner. On the contrary, I have observed a far greater number under the power of this distemper, since the drinking plentifully of wine came more in fashion, the genteeler people having laid aside the use of strong beer almost intirely, leaving it to be drunk by the lower sort alone, whilst they themselves most liberally indulge in wine, especially at night, when business being over, they give themselves up, without restraint, to the sociable enjoyment of their friends and glass.

The celebrated *Linnaeus*^x, seeing that though the Laplanders frequently drink malt spirits, and that often in too great quantities, yet never so much as dream of the gout; and having observed that many country people in Sweden, whose ordinary drink is malt liquor, and who taste no wine, yet never had the least touch of the distemper, therefore asks, *An podagra a solo usu vini? sic suadent nationes podagricæ, quæ pro potu quotidiano utuntur vino, &c. sic divites nostri podagrici, qui potu vini utuntur.* “ Does not the
“ gout proceed solely from the use of wine? nations
“ that are most addicted to this distemper, and whose
“ common drink is wine, &c. seem to confirm it: so
“ do

^x Flor. Laponic. pag. 155.

“ do our own people of fortune, who indulge plentifully in wine of all sorts.”

Besides, it has been already observed on another occasion, (§ 1211.) that wheat flour, washed in water, lets fall a thick glewy matter, which will by no means mix with the water, and, when examined chemically, appears to yield what in all respects is alike to that procured from the parts of animals. This viscid matter then, in the blood of gouty persons, so much blamed as the material cause of their distemper, one is apt to think, would largely abound in this kind of grain, which makes so great a part of our common food. Even milk itself, which frequently is of so much benefit to gouty people, has in it all the viscidness of its cheesy matter.

Too early and too excessive use of venery.] It seems to have been a commonly-received opinion among the antients, that either an excessive, or too early an indulgence in venery, was very apt to give rise to the gout. *Ætius*, in recounting the general causes that produce this distemper, says, „ *Generant autem affectionem cruditates coacervatæ & æbrietates, atq; his adhuc amplius immoderatus rei venerei usus*, “ what “ greatly produces a tendency to this disorder, are “ abounding crudities, frequent drunkenness, and, “ what exceeds all, an immoderate use of venery.” Nay, the very reason why *Hippocrates* has said that eunuchs, and boys below the age of puberty, are never known to have this disease, appears to be, that they are unfit to partake of that enjoyment. ² *Sydenham* says, that the distemper generally invades old people, though he has seen it sometimes attack the younger sort, *quoties scilicet infelicia morbi semina a parentibus quasi ex traduce acceperint, vel si hoc non fuerunt immodicæ veneri prematurius indulserint*, “ when “ either they had the unhappiness to receive the “ seeds

¹ Sermon. 12. cap. 6. pag. 308.

² De podagr. pag. 545.

“ feeds of the distemper handed down, as it were,
 “ from their parents; or, if this was not the case,
 “ had given up themselves too early to the immoderate indulgence in venereal pleasures.”

Elsewhere too he condemns venery as pernicious to people in years, as well as to those afflicted with the gout^a. More of this may be seen by turning back to § 586. ε. where, treating of the bad effects of excessive venery, we are told by *Sanctorius*, that the powers of concoction are exceedingly weakened by too frequent copulation; whence it is classed as one of the causes of this distemper, § 1265. Many I have myself seen, who, having scarcely attained the age of puberty, had begun to waste their strength in venereal enjoyment, and, before the age of thirty, became so miserably gouty, as to lose almost all use of their hands and feet, notwithstanding they were born of sound parents, and, in all other respects, had been extremely regular.

It is therefore somewhat hard, methinks, totally to exclude the abuse of venery out of the causes that produce the gout, as a celebrated author has done^b, when, rejecting all others, he maintains this thick viscid matter to be the only cause of that distemper. It is true, indeed, that several distinct causes may concur in giving birth to this disease; and it seldom happens, that they who indulge in Venus do not likewise try their strength with Bacchus: hence the gout is, by the poets, saluted daughter of Bacchus and Venus.

Λυσιμελὲς Βάχχῃ καὶ λυσιμελὲς Ἀφροδίτῃ
 Γενᾶται θυγάτηρ λυσιμελὲς Ποδάγρα.

“ From member-dissolving Bacchus, and member-
 “ dissolving Venus, was produced a daughter,
 “ the member-dissolving gout.”

In

^a De podagr. pag. 590.

^b Leger traité de la goutte, pag. 46 & 88.

In the mean time, any one of these seems of itself sufficient to produce the gout. The gouty people in Italy blame an excess of venery ; in other regions, they accuse gluttony and surfeit ; and many times we hear several complain of their bodies being enervated and wasted by both.

A large, full, and gross habit.] Such is the habit of body peculiar to those who are accustomed to high feeding, and love to drink hard, more especially if, at the same time, they take but little bodily exercise : for, as long indeed as by riding, hunting, or any other method, they keep their bodies in proper motion, so long they enjoy a sufficient share of health ; but, when growing in years, their strength and agility are much impaired, they still continuing their ordinary course of excess, then it is that we often see them attacked by this distemper. Whence *Cælius Aurelianus* ^d classes among the causes of the gout, *repentinam desertionem solitæ exercitationis*, “ the relinquishing an accustomed exercise too suddenly.” Sydenham, in the mean time, very well remarks, that a full habit is not a thing peculiar to every gouty patient ; for sometimes even lean people, though not so oft indeed, are attacked by this disorder : those in particular, who have brought on the distemper by excessive venereal indulgence, are, for the most part, very lean, and much emaciated ; nay, sometimes, when the fits are exquisitely severe and lasting, through mere torment, they become at last reduced almost to skeletons.

Addicted to acids.] What are the ill effects to be feared from the use of sharp, fourish wines, has been already mentioned in a preceding paragraph. Our celebrated author was in use to relate to his pupils, on this occasion, an instance of a physician, who, being thoroughly addicted to the opinions of *Van Helmont*,

^c Sydenham de podagra, pag. 545.

^d Morb. chronic. Lib. V. cap. 2. pag. 558.

mont, took every day a large dose of *spt. sulphuris per campan.* hoping, by this remedy, to lengthen his life to a distant period, and preserve it always free from every sort of contagion; and who at last, taking the gout, was cured by the continued use of volatile alkaline salts.

Cool their sweaty feet too suddenly.] We shall see afterwards, that besides the vitious state of the liquids, there are also a rigidity and straitness of the vessels to be blamed as a cause of this disorder; and this is the chief reason why people of the lower class are sometimes seized, even though their poverty is over and above sufficient to keep them sober, and their situation of life obliges them, in earning their sustenance, to a great deal of bodily exercise. Such as get their living in Holland, by digging of turf, are often obliged to stand the whole day with their feet under water: it is the same with fishermen; and though they wear boots, yet these being insufficient to keep out the wet, it is their custom many times to dry them by sitting near the fire, whence the solid parts become rigid, and even the boots, unless immediately done over with oil, are rendered for ever useless. Hunters too, who, regardless of every kind of weather, are sometimes obliged, in pursuit of their sport, to remain long in marshy places, with their feet immersed in mud and water, bring on that same noxious disposition, and, by rendering the ligaments and tendons stiff and rigid, fall often a prey to this distemper; but most of all so, when any one or more of the causes above mentioned concur to produce a thickness or acrimony in the fluids.

By inheritance, &c.] That the gout is hereditary, all physicians are pretty unanimously agreed; and I have seen, myself, many who had no reason to blame any cause whatever besides an hereditary taint, who, although they lived according to the greatest chastity and sobriety, yet had been attacked by this disorder even early

early in their youth. Among these I was acquainted with a very wise, judicious man, who, knowing the distemper to be hereditary in his family for many generations, chose to live unmarried, rather than to hand down to posterity so baleful a distemper. *Helmont**, in speaking of this hereditary gout, says, *Est ergo podagræ in semine, tanquam vita prima, cum determinatione silentii ut dormiat usque in paroxysmum primum, velut hirundo tota hyeme. Virtus ergo formativæ in semine non defectum suum sentit ob crimen materialis indispositionis; character siquidem in semine non natus est generare suam podagram ante sui maturitatem; quæ characteris maturitas, non nisi in nepote explicatur.* “ There
 “ is therefore a peculiar disposition, or character, of
 “ the gout residing in the seed, like an embryo of
 “ the disease, which, as a swallow in the time of
 “ winter, lies quiet, and, as it were, asleep, till
 “ awakened by the first paroxysm. The forming
 “ quality therefore finds no hindrance in the seed
 “ from any material indisposition, since this original
 “ character, or disposition, must have time to ripen
 “ before it takes on the form of the distemper; and,
 “ for this reason, it may be even the third generation
 “ ere it displays itself fully.” A skilful physician
 once, who knew that the gout was hereditary in his family, always from his early years, apprehended an attack from this latent enemy; nor was he deceived; for he fell at last under its power†, and shewed, by his own example, that the cure of this disease, even when hereditary, is not always to be despaired of. See what is said, § 1075. 1. concerning hereditary disorders.

Catch it by contagion.] Observations of what happens in diseases seem to prove clearly, that many disorders, which owe their rise to very manifest causes, may so change the human body, and all its humours, as
 that

* In capitulo volup. vivent. morbus. No. VIII. page 313.

† *Coste traité pratique sur la goutte, preface.*

that a person, under such a state of the disorder, may, by contagion, impart it to others, though he himself first received it from causes extremely obvious and manifest; insomuch that healthy persons shall easily be infected, notwithstanding they have never been subject to those manifest causes that first produced it in him. Thus a dysentery, arising from a plain obvious cause, comes afterwards to be propagated by infection. And it has been already observed, (§ 1133, 1134.) that several animals that run mad, though not originally infected, yet communicate their madness by contagion to other animals, with the utmost facility. Many other particulars concerning this matter we shall have occasion to mention when we come to speak of the variolous infection, (§ 1381.) In the mean time it appears pretty plain, from what has already been said, that a disease not originally infectious, may produce such a contagious disposition in the body, as may afterwards be able to communicate that very disease, by infection, to another. From analogy therefore we may easily conceive, how something of this nature may happen in the gout, especially as there are several observations which appear to confirm it. *Canis podagra laboranti ad pedes dormit, hic qui paulo ante mortem dolore præoptabat, podagra liber irridet in gyros versum canem, & latratu suo dolorem quem attraxit ejulantem* *. “ A dog was accustomed
 “ to lie at a person’s feet, who laboured under a severe
 “ fit of the gout: this person, who a little before
 “ through mere torment wished for nothing more
 “ than death itself, when he had got out of the fit
 “ was highly diverted to see the dog running round
 “ and round, giving all the signs, by barking and
 “ howling, of the pain which he had caught of his
 “ master.” *John Bapt. Werloschnigg* ^b hath told us,
 that

* Kaau perspirat. dicta Hippocrat. page 216, 217. Boyle de util. philos. experim. page 291.

^b Miscell. curios. decur. 3 ann. 9, & 10. page 40.

that he knew two people, one of whom had a pair of boots, belonging to a gouty person, given to him in a present; the other bought a pair of the same kind at a broker's shop. Both these men, after wearing the boots a little time, were seized with the most excruciating gouty pains. *Helmont*¹ gives an account of a noble lady, whom he knew, that, during the remission of her gouty pains, whenever she sat in a chair in which her brother, afflicted with the same disorder, had formerly, and in another city, always been accustomed to sit, she found immediately her pains return upon her violently; and though she suffered these pains for several months without remission, yet no body had the least suspicion that it arose from the chair. He adds however, that another gouty person used to sit in it without feeling any such bad effects; whence he concluded, *fratris jam mortui muniam sedem contagio suspectam merito reddidisse, quæ sorori, & non alteri podagrico fluxus illos secus quieturos moveret, trans omnes vestes penetrans*; “ that a thickened perspirable matter from her brother, lodging in the chair, had rendered it, not without reason, suspected of contagion; which, passing easier through his sister's clothes than those of the other gouty person, had set the gouty fluids in motion, which otherwise would have lain at rest.”

It has been many times seen, that married women, otherwise very healthy, attending on their husbands constantly night and day while they lay ill of the gout, have themselves afterwards been seized with the same disorder, though many others, who have performed the like office with as much assiduity, have escaped free.

From what has been said then it appears reasonable to conclude, that the gout, especially when inveterate and long standing, is not altogether free from suspicious

¹ In capitulo de vulnerum magnetica curatione, page 599.

ous signs of contagion; and therefore it is but agreeable to prudence, that every one be put upon their guard.

S E C T I O N MCCLVI.

THE season, age, and other circumstances, performing the part of causes; as also the phænomena, beginning, progress, effect, and termination, of this disease; being all together well weighed and comprehended, sufficiently point out the indications and means of cure.

Diverse causes have already been enumerated from which the gout is produced. At the same time it was observed in particular, that the disease was always uniform and the same, however differently produced.

From different causes therefore there is a something which begins to be generated in certain parts of our fluids, tending to vitiate them, which in time increases, and, being accumulated, manifests itself at first, if the disease is regular, about the joints of the lower extremities.

We must, in the first place, then, consider this regularity a little, in order to be better acquainted with the nature of the gout. As for the irregular symptoms which come on when disturbed in its own natural course, or when the morbidick matter is diverted from falling on the lower extremities, they shall be examined afterwards. When a person therefore, for the first time, has gone through a fit of the gout, which generally is but of short continuance, his joints, formerly so extremely pained, recover their usual agility, and he finds himself altogether sound and well. But when the same causes that brought on the fit continue to act, the same gouty tendency is the consequence, and, being accumulated by degrees, is again deposited on the same parts, exciting all the former pains, and remaining there till, by a gentle
moisture

moisture of the part affected, that accumulated matter, which caused the distemper, is expelled out of the body. But this accumulation of the morbidick matter proceeds faster, or slower, in proportion as the causes of the disease are more or less powerful. Hence it sometimes happens, that patients, having recovered from the first fit, cautiously avoid such things as commonly produce this distemper, and, by that means, live a long time without having the least attack. I have known some who have not had a return of the fit for the space of two, nay, even three, whole years. It is therefore sufficiently probable, that when the morbidick matter, inherent in the part affected, is so far attenuated as easily to pass out by a gentle perspiration; then part of the same may be thrown off in this way, during the intermediate space between two paroxysms: for it is observed, that the heat of summer is kindly and favourable to gouty people; as, on the contrary, the winter's cold is extremely vexatious. * Sydenham takes notice of some inveterate gouty patients, who cruelly suffered almost all the year, *demptis duobus vel tribus mensibus calidioribus atquæ æstivis*, "excepting two or three of the "warmer months in the summer;" and remarks in particular, that a fit generally continues two months at a time with the old people before it leaves them. *Iis vero qui vel annis, vel diuturniore morbi mora, jam fractioniores sunt, non prius valedicit quam æstas jam adultior illum fugaverit*. "It does not take leave of old "people, or those who are much reduced by the "long continuance of the disease, till warm settled "summer weather drives it away."

Whence *Helmont*¹, reflecting on these particulars, says, that this depraved tendency in the humours, is what properly ought to be called the gout, the pain being only the manifest effects of this tendency. *In digito namque non est podagra; at duntaxat pomum sive fructus radicis.*

* De podagr. pag. 549, 551.

¹ In capitul. volup. vivent. morb. pag. 313, 315.

radicis. Ideoque etsi digitum abscideris, non proinde podagram sanaveris. Itaque non quod dolet, quodque tumet, vel ardet, podagra est; sed hujus sunt producta: neque enim per pilam bomardæ sublato pede ablata est podagra, sive arthritidis. “ For the gout is no otherwise in the toe, “ than as an apple or fruit is in any vegetable: hence, “ should you even extirpate the toe intirely, you would “ not thereby take away the gout: therefore, though “ it is painful, swelled, or inflamed; yet these are “ only the effects of the distemper, and not the distemper itself. A cannon-ball in the same manner “ may take off the foot of any one, but cannot drive “ off the inherent seeds of the gout, or other arthritick disorders, from the body.” For the whole cure, as we afterwards shall see, consists in this; that, as far as we can, this gouty depravation of the humours may be prevented by a wholesome and regular exercise of the body; avoiding at the same time, with the greatest care, every thing that is apt to bring it on; or, if we should perceive it beginning to accumulate, to draw it off by some prudent means from the body, before it has time to be deposited on the joints.

Whence we may understand why gouty people are so much surpris'd on the first attack of the fit, though abundantly conscious of having committed the greatest errors in their diet and way of living.

This is excellently well painted by *Lucian*^m, where he describes all that happened to Ocypus when he was first seized by the gout, who, willing to hide the disease, obstinately insisted that the pain of his foot arose either from wrestling, running, or a stroke: but his old tutor, who knew better, tells the physician,

*Mendacia tibi dicta, quæque dicta sunt;
Nec enim luctamve, seu cursum, quod indicat
Exercens ictus est: at hoc mihi credito:
Probe quidem valens primo venit domum
Bene tum saturatus, affatim potus, miser
In lectulo jacens somnum solus capit.*

Tum

* In Tragopod. Tom. III. pag. 670.

*Tum nocte somno excussus, exclamat subito
 Divinitus velut ictus : & cuncti timent :
 Dixitque, vae mihi ! unde tanta vis mali !
 Deus ne quis pedem tenens extra rapis ? &c.
 Sed quæ modo dicebat, finxit omnia,
 Dum dira morbi dissimulat mysteria.*

“ A heap of lies he has told, and more will tell,
 “ For no one thing he said to him befell.
 “ Trust me, he ne’er from wrestling had a pain,
 “ Nor yet in running e’er received a strain ;
 “ But full of wine, and cramm’d with luscious fare,
 “ Homeward, in hearty health, did first repair :
 “ Then, as the wretch enjoy’d his rest alone,
 “ Waking at midnight with a hideous moan,
 “ Struck, as it were from heaven, alarm’d us all,
 “ And, Gods ! my feet, my feet ! aloud did baul ;
 “ But what he now has told is all a sham
 “ To cover o’er his suffering and shame.”

But when, after repeated fits, the distemper is better formed, then physicians, and patients too, taught by experience, can easily foretell, from certain marks, when this accumulated matter is near at hand, and ready to discharge itself upon the joints. Concerning these signs we shall discourse in the following section.

S E C T. MCCLVII.

FOR the repeated paroxysms, of this disease, long lurking, as it were, in embryo, are generally ushered in by crude indigestions, belching, heaviness, flatulent sluggishness, costiveness, feverishness, interception of the usual sweating of the feet, and swelling of their veins, a change of the season, or of the weather.

Helmont 2, when he found, upon considering attentively the gout, *sive parentum semina labatur in hære-*
 VOL. XIII. D des,

ⁿ In capitulo : volupe viventium morbus, pag. 313.

des, *sive demum proprio vivendi errore contrahatur, unius & ejusdem speciei esse, cum omni proprietate illum stipante*, “ that whether derived from parents as hereditary, or contracted by any peculiar error in the way of living, it was always uniform and the same in regard to its concomitant symptoms:” he was particularly astonished how *podagræ character esset in semine tanquam vita prima cum determinatione silentii, at dormiat usque in paroxysmum primum, velut hirundo tota hyeme*, “ there should be a peculiar lineament, or character of the gout, residing in the seed, like an embryo of the disease, which, like a swallow in the winter, lies quiet, and, as it were, asleep, till awakened by the first paroxysm;” and how that matter should lie so long concealed in the body, as, after many years, to produce the gout, without giving any manifest sign of its existence before-hand. There were, in fact, the seeds of the gout existing; but there were yet the requisites wanting to make them spring forth and germinate. The same thing happens in the intermission between two paroxysms, which sometimes continue a considerable length of time, the patients finding themselves well till this unlucky seed, beginning to germinate, threaten them with a new attack of the disorder: *Verum illo tempore podagrici ° primum agitantur in præcordiis, & tam internas potuum atque ciborum, quam externas aeris vicissitudines, sentiunt; immo & sæpe has futuras præsagiunt: quare patiuntur febriles metus primum, &c.* “ But when this is the case, gouty people are first of all seized with pains about the *præcordia*, and are in a more nice and ticklish manner affected with what they eat or drink, feel the changes of the weather in a more exquisite degree, so as even to foretell them ere they come on: hence a feverishness first of all,” &c. And in another place he says, *¶ Hætenus namque nec antiqua medullitas*

° In capitulo: volupe viventium morbus, pag. 315.

¶ In capitulo: in verbis, herbis, & lapidibus, &c. p. 465.

*medullitas radicata podagra, e sinubus insiti spiritus vitalis quibus sigillata est, erumpit, quin ante sui accessum infestat circa os stomachi, totalemque inde integri dispositionem violet, concitetque: quam adventantem podagram, quædam precedens febricula plerumque prodit: “ For
 “ no sooner does that deep-rooted gouty matter
 “ break forth from the bosom of the vital spirit, in
 “ which it lay sealed up, than it rages violently about
 “ the mouth of the stomach, annoys and vexes the
 “ animal system all over; and a smart feverishness is
 “ generally the forerunner of an approaching paroxysm.”* Several remarks of this kind he makes in other places.

The distemper, however, is no where more accurately described than by physicians, who have themselves been sufferers. Sydenham⁹, who was many years afflicted, and exceedingly attentive in observing the course of this disease, acknowledges indeed, that the fit, for the most part, comes on suddenly, unless, *nisi quod ventriculi cruditate atque ἀπεψία ad septimanas aliquot æger laboraverit; corporis quoque intumescentia quasi ventosa & gravitate, quæ indies augeatur donec tandem detonet paroxysmus; quem paucis diebus præit torpor, & quasi flatuum descensus per femorum carnes, cum affectione σπασμοειδῆ, tum pridie paroxysmi appetitus voracior, non tamen naturalis,* “ the patient, for some weeks before, feels a crudity and
 “ indigestion of the stomach, a heaviness likewise;
 “ and the body, as it were, puffed up, which increases daily, till at last it terminates in a fit; immediately before which, there is generally a sluggishness, and a wind felt passing down, as it were, through the fleshy parts of the thigh, with some degree of a spasmodick tendency: the day before too, the appetite is exceeding voracious, and somewhat unnatural.”

Symptoms, pretty much alike to these, we read of

⁹ De podagra, pag. 546.

in another author^r, who laboured under a hereditary gout himself; and who observed, that when the paroxysm was near, it was usual to shed a copious quantity of acrid involuntary tears; and that the urine, for several days before, was pale and clear, or a little on the turbid, like thick lemonade; at the same time remarking, that the longer these signs continued before the fit came on, the severer it would prove; and, on the contrary, the disorder would soon be over, if the urine deposited, in great abundance, a yellow or reddish sediment.

But the progress of this distemper seems to have been always uniform; for most of these signs are to be met with in *Cœlius Aurelianus*^s. *Sequitur autem passione articulari tentatos, torpor atque fornicatio eorum articularum qui tanguntur, & difficilis flexio atque rursum extensio: item gravedo, & vacandi dulcedo, & ad parvum motum vehemens labor, atque dormientibus sensus quidam resonantium articularum, & cum de somno surrexerint veluti saltu earundem partium afficiuntur: tum horror vel rigor, atque tremor, sine ulla ratione partium sequuntur. Dehinc cum passio se extollere cœperit in podagricis dolor alterius pedis, &c.* “Symptoms generally attending persons afflicted with a gouty humour, are a numbness and prickling in the affected joints, a difficulty in their flexion and extension, heaviness, great aversion to employment, and feeling the greatest fatigue from the least motion; sensation of noise during sleep, proceeding as it were from the joints; and, upon waking, a sudden starting of the parts: then follows an unaccountable shivering, or stiffness, and tremor all over, till the humour begins so far to prevail, as to discharge itself on one or other of the feet, &c.”

He makes no mention indeed of crudities and indigestion of the first passages, nor of belchings; but these,

^r La Coste traité pratique sur la goutte, pag. 58, &c.

^s Morbor. chron. Lib. V. cap. 2. pag. 558.

these, as *Sydenham* remarks, continue some weeks before the fit comes on : whereas *Aurelianus* seems to describe the signs that appear when the fit is on the very point of making an attack.

Interception of the usual sweating of the feet, &c.] In healthy persons, the feet frequently sweat ; and more especially between the toes there is found a gross, ranker kind of sweat, that, when suffered to remain, grows still thicker, and produces a disagreeable excrement of a filthy, stinking smell, particularly in those who pay little regard to cleanliness. *Norunt podagrici plures sibi instantem accessum ex mutato excremento intra pedis digitos nascente* ; “ many gouty “ people can foretell an approaching fit by the “ change in the excrement between their toes.” And *Hoffman* “ says, he has often observed, *sudoris consueti intermissionem notabilemque perspirationis, quæ ex indusiis inspectis cognoscitur. atque excrementorum inter pedis digitos defectionem, imminetern designare paroxysmam,* “ a diminution of the usual quantity of perspiration, “ which is known by the linen, and a deficiency of “ this excrement between the toes, give sure pre- “ sages of an approaching paroxysm.” On the contrary, the pain gradually goes off as a moisture appears on the feet, and at last terminates in a gentle sweat, as we shall afterwards see more at large (§ 1201.) for the vessels that were before constricted, and retained the humours that were accustomed to pass through them, being now relaxed again, allow them at full liberty to flow as usual.

And swelling of their veins, &c.] Every cause, that obstructs the free course of the venous blood towards the heart, must, of consequence, by accumulating this fluid, occasion a greater distention of the veins. Thus, in women big with child, the enlarged

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uterus

Helmont. in capitulo volup. vivent. morb. num. 19. p. 314.

“ *Medic. rat. system. Tom. IV. part 2. sect. 2. cap. 11. pag. 515.*

uterus pressing on the iliac vessels, the veins of the legs become varicous ; and, unless secured by the gentle compression of a bandage, continue afterwards swelled, and very much distended, all the rest of their lives. The same thing happens to weavers, and other artificers, who hang their legs all day long, and have no occasion to employ their lower extremities in any brisk, muscular motion ; as also in those whose business obliges them every day to stand long in an erect posture : for it is in this case difficult for the venous fluid to ascend in opposition to the general tendency of gravitation : hence it is that such people, especially when they grow in years, have their feet swelled, and their veins varicous. It is true, indeed, there are valves in the veins of the lower extremities to hinder the pressure of the whole column of blood on the lower part of the vessel ; yet there is a sufficient *impetus* of the blood requisite to raise up these valves ; which, if wanting, the blood, being accumulated behind each series of valves, must dilate the veins, and, by that means, produce varicous knots : but, seeing the *impetus* of the arterial blood poured into the veins, imparts motion to the fluids that circulate already there ; and seeing the motion of the arterial fluid is diminished by the obstructed perspiration in the feet, it necessarily follows that the motion of the venous blood will be retarded, and so the veins of course must swell. Moreover, in gouty people, especially those who have been long afflicted, muscular motion is but feeble : now we all know that the muscles are every where adjacent to the veins, the arteries having their situation below, for this reason, that the muscles in time of action may, by their swelling, press upon the veins, and so the motion of the venous blood be increased : and hence it happens, that those in the vigour of life, who have not as yet, by frequent paroxysms, lost the agility of their feet, have their veins by no means

means so much distended ; but during the time of the paroxysm, when pain obliges them to keep their limbs free from motion, then indeed their veins become a little swelled.

From this we may learn, why the antient physicians prescribed the opening of a vein : it was, no doubt, because they observed the veins very much distended in patients when they complained of intense heat, and more especially when there appeared a redness on the part. *Ætius* * informs us of his having followed this practice. *Quod si vero manus dextra dolore infestetur, venam in dextro crure secamus, juxta talos aut poplitem, aut plantam pedis : post sectam vero venam, si dolores adhuc perseverent, & fortis tensio sit in affecto membro, sæpe in ipso inflammato crure vena incisa, & multo sanguine detracto, liberavi hominem ab omni dolore.* “ But if the right hand is the
“ part affected with pain, then we open a vein in
“ the right leg, about the heel, or behind the knee,
“ or toward the foot : but should the pain still con-
“ tinue after the bleeding, and there is a high de-
“ gree of tension on the part affected ; in that case,
“ I have often known a person relieved of his com-
“ plaints, by opening a vein in the inflamed limb
“ itself, and taking a pretty large portion of blood
“ away.” Concerning blood-letting in the cure of the gout, see more, § 1270.

When they observed the veins so much distended, and knowing nothing of the circulation of the blood, it seems they were led to imagine, that the cause which formed the disease was conveyed by their means into the part affected ; and so they thought, by opening them, they would intercept the afflux of the morbidick humour. This seems to be the opinion of *Rufus* *, who, willing to try all methods, however different, in a distemper so obstinate, advises the fol-

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lowing.

* Sermon. 12. cap. 23. pag. 316.

* Ibid. cap. 24.

lowing. *Si igitur quis venas veluti in varicibus excindat, multitudo sanguinis non amplius inflammationem facere, quemadmodum antea consuevit, potest; atque id imprimis in sanguinea podagra conducet.* “ If therefore
 “ the veins are opened in the same manner, as in va-
 “ ricious swellings, the quantity of blood can no lon-
 “ ger increase the inflammation as it used to do; and
 “ this will therefore be principally of advantage in
 “ the inflammatory gout.” At present, we know, that the veins carry out nothing to any particular part, but serve only to transmit the returning fluids from all parts of the body, back to the heart. Since then the material cause of the gout is not by any means generated in the foot, the morbid matter arising from some other quarter, and being only deposited there; and seeing that, if it is hindered from being thus deposited, the consequence of being dispersed elsewhere is still more hurtful; we have therefore no occasion to put in practice that cruel operation^y which a celebrated antient bore so philosophically; *ille qui dum varices excutandas præberet, legere librum perseveravit*^z; “ he who continued reading a book
 “ with great composure, the while they were cutting
 “ his varicious swellings.” Yet *Caius Marius*, having varicious swellings in both legs, and consenting to let them be cut, went through the operation on one with great firmness, not so much as fetching a groan, or even knitting his eyebrow: but when his physician was preparing to perform on the other, he stopt him, saying, it was a remedy too dearly bought by so much exquisite torment^a.

[The season of the year, or change of weather.] It has been mentioned already, (§ 1254.) that the gout renews its attack generally in spring and autumn. It does not appear however to be intirely limited to these

^y Vide Celsum, Lib. VII. cap. 31. pag. 495.

^z Senec. epist. 78. pag. 532.

^a Plutarch. apothegm. Tom. II. pag. 202.

these seasons ; for even *Sydenham* ^b, the most accurate observer of this distemper, describing a regular gout, says, that it began to make its attacks all of a sudden at the end of January, or about the first of February. Another physical writer ^c acknowledges indeed, that the fits of this distemper are mostly excited in winter or autumn ; yet in many instances, of himself and others, he has known the attacks renewed at all times of the year ; and some he knew that had the returns of the paroxysms every three months : nay, he says, he has seen some attacked even in the very middle of summer, who continued ill till near the beginning of autumn ; which however it is likely very seldom happens, as gouty people, for the most part, use to find themselves greatly better in the summer months ; which appears to have been observed also by *Cælius Aurelianus* ^d, who says, *necnon temporibus certis nasci, item magis asperari videtur, ut primo verno, secundo autumnno, tertio hyeme, æstate vero difficile*, “ it seems not only to
 “ be produced at particular seasons, but also, in point
 “ of severity, appears to be very much influenced by
 “ them ; as, for instance, in the spring it has the
 “ highest degree of severity ; in autumn not so great ;
 “ still less in winter, and hardly any at all in sum-
 “ mer.” It must, at the same time, be observed, that an unexpected fit may be brought on at any time of the year, by the causes hereafter mentioned in the following section.

S E C T. MCCLVIII.

ALL errors committed in the nonnaturals, whence crudities are formed, are apt to hasten and bring on the fit when little expected ; so that immoderate venery, sitting up late
 at

^b De podag. 546 ^c Coste traité pratique sur la goutte, p. 59
^d Morb. chronic. Lib. V. cap. 2. p. 558.

at study, jolly feasting, asparagus, eating much of bacon fat, and the like; too much fatigue, strong passions; the taking a purge only; humid, cold, tempestuous weather; all these are enemies to gouty people.

We have already remarked, (§ 1255.) that errors in diet are justly to be reckoned among the causes that give rise to the gout: it appeared at the same time plain, that the morbidick matter was accumulated during the intermediate time between each paroxysm, which afterwards lay in readiness to discharge itself upon the joints. We need not be surprized, therefore, if any error committed in the use of the nonnaturals should occasion crudities, and accelerate a fit; for, as *Aretæus* observes^c, *si discrimen evaserint tanquam ab inferis elapsi, laxiorem vitam degunt, &c. idcirco tanquam mortem rursus subituri, licentiose præsentī vita fruuntur*, “ should they escape the present danger, freed, at it were, from hell torments, they plunge into a life of enjoyment, &c. therefore, like those who know they must soon encounter death, leave not a minute of the time they have, unemployed in some voluptuous indulgence or other.” Neither is it unusual for them even to sneer at a physician, who would pretend to lay down rules for their way of living. A gouty patient^f was advised by his physician to abstain from eating hams of any kind: No, says he, for then I shall deprive myself of one of the greatest comforts of my soul, which is, that during my greatest torments, in a fit of the gout, I can be at liberty to accuse these eatables, and have the pleasure of bestowing on them a few hearty curses. Whence *Galen*^g conceived hopes of a cure from those only who

^c De caus. & sign. morb. diuturn. Lib. II. cap. 12. pag. 67.

^f Essays de Montagne, Tom. I. pag. 18.

^g De curand. ration. per vānē, sect. cap. 7. Charter. Tom. X. pag. 436.

who were afterwards contented to live a life of strict regularity : *intemperantes enim vinososque, & ventri ac gulæ deditos, neque purgatione, neque sanguinis missione magnopere adjuveris ; nam per vitæ intemperantiam crudorum humorum copiam ocysime colligunt. Verum his ne manum admovere tentandum est :* “ for as to the intemperate, and those who are addicted to drinking, “ and the luxuries of eating, you will never be able “ to do them any service, either by purging, bleeding, or any thing else whatever ; because, by their “ intemperate way of life, in the shortest period of “ time. they accumulate the greatest quantity of “ crude and indigested humours : but as to such “ people, you must not pretend even to attempt “ their cure.”

Besides, any too sudden change of diet, even though it is to a better kind, is yet very ready to bring on an unexpected paroxysm. For Sydenhamⁿ rightly observes it to be very prejudicial, *si edaces fuerint, & liquores spirituosos immoderatus hauerunt, postea repente ad liquores tenues & refrigerantes se contulerint,* “ if those who have been accustomed to eat heartily, and drink immoderately “ of spirituous liquors, lay their wonted habits so suddenly aside, and betake themselves to small cooling liquors :” for, in that case, there is a too sudden change made in the body ; and, if the gouty matter be in any degree accumulated, a paroxysm must, in a short time, be expected. Many gouty people, when freed from pain, enjoy a tolerable good appetite, who yet, as long as the pain continues, can touch nothing that is set before them. In some, the loathing of all kind of food used to be a certain presage of an approaching paroxysm. Very rarely do we see so uncommon a *fames canina*. joined with a fit of the gout, as in that remarkable case related by Du Hahnⁱ, which he says was so very keen,

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ⁿ De podagra, pag. 545.

ⁱ Histor. podagr. eminentiss. &c. pag. 4.

ut nisi ad primam clamantis cibum vocem accurrerunt servi, cibum adportantes, ilico vomituritione ingratiſſima afficeretur æger, ſpaſmo gulam tamdiu torquente, uſque dum proritatus eſurie ventriculus pituitam & bilem cum impetu eruclaret ; that, unleſs the ſervants brought in
 “ the diſhes of meat the moment he called, the pa-
 “ tient was ſeized with a moſt diſagreeable reach-
 “ ing, and ſpaſmodick twiſting of the gullet, till
 “ the ſtomach, irritated by an eager ſenſation of
 “ hunger, threw up with violence a quantity of bile
 “ and phlegm.”

Instances of perſons ſeized of a ſudden with ſevere fits of the gout, at the celebrating of the feaſts of Bacchus, we know were very common, after a liberal indulgence, and, as the cuſtom was, reveling and debauching till midnight. *Ocypus* had no ſooner laid himſelf down, drenched in liquor, and his belly well ſtuffed with meat, but he waked in a ſudden and unexpected fit^k.

Immoderate venery.] This has been already handled at § 1255. only it is neceſſary to remark, in paſſing, that many gouty people, juſt before the fit, are obſerved to have rather a more eager deſire for that enjoyment.

Sitting up late at ſtudy.] How much this contributes to bring on the gout, has alſo been ſhewn, § 1255. I knew an eminent mathematician, to whom this diſeaſe was hereditary, who, though he lived with great ſobriety and chaſtity, yet, by long and conſtant application to the ſolution of a difficult problem, brought on a ſudden fit of this diſtemper; for it had always, before this, been very regular, and generally, at ſtated periods, uſed to pay him a viſit twice a year.

Eating much of aſparagus, bacon fat, and the like.] Aſparagus, which is ſo agreeable a diſh at moſt people's tables in the ſpring, has in it this ſingular property, that when taſted in the ſmalleſt quantity it gives the urine, in two minutes time, a rank ſubputrid ſmell.

^k Lucian. Tom. III. page 670.

smell. Whence *Helmont* says ¹, *Sic asparagus foetet in lotio, qua tenuis putredo aliqua sibi adnata eandem in exilium festinat*, “ Asparagus smells so rank in the urine, as if “ some putrid matter had attached itself to it, and was “ in a hurry to escape along with it out of the body.” The smell, however, which is perceived in the urine after eating asparagus, is entirely different from the smell of the same when either raw or only boiled; which is particularly remarkable, because garlick, for instance, smells the urine, but then it is with its own particular flavour. We see then of how penetrating a nature this plant is, from the sudden change it produces in so short a time upon the urine. Hence it seems to have been classed in the shops, on this very account, among the five opening roots. Sound healthy persons, indeed, may eat any quantity of this vegetable without any harm; but many gouty people, who have eaten largely, have observed it, from experience, to hasten the paroxysm. Is it by this penetrating quality that it agitates, and sets the morbid matter in motion, which hitherto lay quiet? *Trallianus* ^m, indeed, condemns cabbages, cresses, rocket, leeks, and garlick, as hurtful in this disease; all which impart a different smell to the urine. He also considers all kinds of fat, especially bacon, as hurtful, because they easily give rise to crudities, and, when taken in large quantities, can only be digested by persons that are very robust, and constantly employed in hard labour. See what has been said concerning their ill effects in the cure of wounds, § 196.

Too much fatigue.] From what has been said in treating of the causes of fevers, (§ 586.) it appeared pretty plain, that the most acute fevers may arise solely from a too brisk and too long-continued motion of the body; especially in those who have not been accustomed

¹ In capitulo: aditus præclusus, &c. No. 12. page 446.

^m Lib. II. cap. 1. page 604.

accustomed to strong bodily exercise: whence it is evident, that all the fluids, being thus agitated by the quickness of circulation, occasioned by this excessive motion, must likewise greatly affect the morbidick matter; while, at the same time, the feet, being pained with too much fatigue, will the easier determine the *metastis* towards the lower extremities. On this account Sydenhamⁿ, though he mightily recommends daily exercise to gouty patients, yet anxiously inculcates this admonition, *Hoc vero exercitium vehemens non fit, oportet; tale vero, quale senibus competit qui podagra subiecta sunt magis usitata. Motus enim corporis justo vehementior spiritus nimium dissipat, & e consequenti concoctiones lædit; quando exercitatio moderata & perseverans eosdem firmet.* “ By no means let this exercise be too violent, but only such as may be convenient to old people, who, in general, are the most liable to this distemper; for all violent motion dissipates the spirits too much, whereas moderate easy exercise, continued, keeps up and strengthens them.”

Strong passions.] Gouty people are so easily provoked to anger, that Sydenham^o did not scruple to say of this distemper, *non enim rectius podagræ, quam iracundiæ paroxysmus omnis dici potest,* “ that every paroxysm of this disease should be called rather a fit of anger, than a fit of the gout.” I had long an intimate friendship with a person of very great learning, and otherways of a sweet, peaceable, and mild disposition, who, taught by his experience, could at last exactly foretell when he was to have a fit, by his being peevish a little before, and out of humour at every trifle. Sydenham^p too observes, that gouty people are not only subject to anger, but also to other passions, such as fear, anxiety, and the like; and

regain

ⁿ De podagra, pag. 589.

^o Ibid. pag. 555.

^p Ibid. pag. 589.

regain not their usual tranquillity till such time as the fit is over, and the pain and sickness leave them. What disturbance the passions of the mind can excite in the body, hath already been taken notice of in the history of fevers, and in the chapter concerning diseases arising from an excess of circulatory motion.

Ægineta^a has very well observed, that in gouty persons there is a præexistent matter, hitherto lying dormant, which is roused into action by the more immediate cause of the disease; and so the passions of the mind, as they wonderfully influence the whole body, may, as more immediate causes, do mischief. But *Ægineta* holds them to be hurtful in another sense; for he says, *Mœrores autem, curæ, & alii animi affectus, non solum movent, sed ipsi quoque cacoëchymiam generant sive primario, sive ex contingenti*; “Anxiety, “cares, and other passions, not only produce com- “motion, but also serve to generate a bad habit of “body, either more immediately at once, or at some “future period by consequences more remote.” And hence the passions may act either as predisponent causes, or as those more immediate ones which accelerate the distemper.

Did it not appear, from innumerable observations, how great are the changes wrought in the human body by the strong and sudden affections of the mind, it would be difficult to believe all the instances given of the cures performed by them on this distemper. We read of a person in the gout, for his spiteful and abusive temper, very much disliked by every body; whom another person, disguised in the form of a frightful spectre, snatched out of bed, and, taking him, upon his back, walked down stairs, making his feet, already in so much pain, strike all the way down against the steps, paying no regard in the least to his terrible cries, and at last left him below on the floor,

^a Lib. III. cap. 78. page 57.

^b Hildan. oper. omn. pag. 993.

floor. The gouty man, who before could not stir a limb, got up on his legs in a hurry, ran up stairs, and, opening the window of the chamber, alarmed all the neighbourhood with his noise: however, he got well, and never after was seized with the distemper. Another person, condemned to lose his head, as they carried him out in order to be executed, received the most unexpected news of his pardon; which had so remarkable an effect upon him, that although he was quite exhausted with pain, and had lost the use of every limb, yet he got up on his legs immediately, and walked with remarkable quickness and agility, and lived many years after without having the least touch of the disorder. * This case is preserved in the publick records, and therefore merits some degree of credit.

Taking a purge only.] What opinion we are to form concerning the use of purgatives in the cure of the gout, we shall afterwards see when we come to §1271. here we are only to consider them as being suspected of accelerating the gouty paroxysms. Many physicians have been of opinion, that part of this morbidick matter might be carried off by means of a purgative, so as to render the paroxysm much milder, and principally when the disorder is exasperated by any error in diet causing crudity and indigestion. *Hoffman* † recommends it to young physicians as a practical axiom, *mitiores semper dolores evadere, in quoque etiam loco existant, si prima regio prius sordibus suis ante usum aliorum medicamentorum, fuerit repurgata*, “ that all pains whatsoever, existing in whatever
“ part, are rendered milder by clearing the first
“ passages well, before they enter on the use of other
“ remedies.” He gives an instance, even in himself, of his having found the most remarkable benefit from taking a purgative immediately before the fit:
but

* Hildan. oper. omn. page 993.

† Medic. rat. & system. Tom. IV. part 2. sect. 2. cap. 11. pag. 259.

but he tried this chiefly with a view to clear the first passages of the *fæces*, and draw off some noxious humours lodged too long in the *duodenum*, or other parts of the alimentary canal: and for this purpose he principally recommends emollient clysters, rhubarb, manna, and cream of tartar, above all others, as giving least disturbance to the body. Yet Sydenham^u, whose authority in this distemper is of the greatest weight, says, that he is very sure that any cathartick medicine whatever, whether strong or gentle, must be hurtful, taken either at the time of the fits, or even during the intermediate intervals: *Etenim tam mei ipsius, quam aliorum, periculo compertissimum habeo, catharsin quovis horum temporum administratam, ita parum votis respondisse, ut malum quod debuerat averruncare atque avertere, accerferet*: “ for I know it, says he, “ to be very certain, from my own experience, as “ well as that of other people, that purgatives administered at either of these times are so far from “ answering our wishes, that they rather hasten on “ the very mischief which they were intended to extirpate or avert.” Although afterwards, when he was afflicted with bloody urine, from the stone in the kidneys, he took some manna, which gave him considerable relief, and a little liquid laudanum in the evening, to quiet the disturbance from the purgative, and by that means prevent a return of the gout^w. He acknowledges indeed that this method happened to succeed with himself, and so purgatives might also be successful with other gouty people, administered in the same manner, and under the like symptoms; but, in general, he continued firm in the same opinion, that purgatives were hardly ever of any service in this distemper. Whence *Lucian*^{*} makes the goddess *Podagra* say, that she would fall with greater fury upon those who purged themselves with the sacred potion, that is,

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E

made

^u De podagra, pag. 561.

^w De mictu sanguin. pag. 704.

^{*} Tom. III. pag. 655.

made of the hiera picra, aloes having the greatest share in that composition.

A cold, moist air.] Fits of the gout, for the most part, return in the spring and autumn, because at these seasons the most considerable changes of the air happen. Gouty persons find the greatest relief from a warm air, and this makes them anxious to keep the affected joints well covered. We read of a certain person^y so miserably afflicted with the gout, in the thirty-first year of his age, that he lost almost intirely the use of his hands and feet; who having been obliged, on some particular business, to take a voyage to the East-Indies, in three years afterwards returned to his native country, in good health, cured by the heat of the climate alone, and never afterwards had the least attack. The celebrated *Du Hahn* remarks^z, *septentrionalem ventum provocasse morbum, perinde uti mollioris auræ afflatum eundem mitigasse*, “that the north
“ wind in particular so exasperates this distemper,
“ that, by a softer wind blowing from any other
“ quarter, it is considerably mitigated:” but as catarrhs are frequently produced from the same inclemency of the air, he observed it was common to almost all gouty persons to have a catarrh and fever by turns, in a sort of vicissitude: for though persons in the gout are said not to be very subject to epidemical distempers, yet, *catarrhorum epidemiæ podagricis minus parcunt, quin immo permultis ansa fiunt recrudescentis morbi: quidam etiam per vices vel catarrho laborant, vel articulari morbo^a*, “epidemical catarrhs
“ were so far from sparing those that were gouty,
“ that they rather served to exasperate, and make the
“ distemper come on with double force; and some
“ were attacked by the catarrh and gouty pains by
“ turns:” whence he was induced to believe, that the

^y Heinsius *Verhandeling van het podagra*, pag. 267.

^z *Hist. podagr. eminentissim. &c.* pag. 13.

^a *Ibid.* pag. 21.

the sharp gouty matter, mixing with the catarrhus phlegm, by that means was ejected out of the body, or not being allowed to pass out in that manner, excited afresh all the pains of the gout. In the beginning of a catarrh, the nostrils and upper lip are very much inflamed, and the skin almost eroded by a sharp humour distilling from the nose, which, if it gets into the mouth, is of a saltish taste. This humour, when examined with a microscope, appears full of little saline *spicula* ^b. Should this efflux of acrid catarrhus humour be by any means imprudently stopped, sometimes the very worst of consequences follow. Thus *Willis* ^c observes, that a catarrh, suddenly dried up by the fumes of *succinum*, threw the patient immediately into very dreadful convulsions. It will be shewn afterwards, (in § 1273.) that the gouty matter in the same way, if it is not derived to the usual parts, produces the most terrible mischiefs.

S E C T. MCCLIX.

TH E place which it first and regularly attacks is always the foot, and chiefly those parts of the same through which the liquids have the most difficult passage, as the *periosteum*, tendons, nerves, membranes, ligaments, such as are remotest from the heart, and the most pressed and pinched.

Notwithstanding this disease, as we have already observed, acquires another appellation according to the places on which the morbid matter fixes; yet, since it always begins at the feet, if regular, it is therefore called the gout by every one, even though it occupy several other parts of the body, as we shall see in the following paragraph.

E 2

Lucian,

^b Haarlemsche Maatschappy, Tom. II. pag. 101. in notis.

^c Patholog. Cereb. pag. 124.

Lucian^d, who, though he laughs at the sufferings of the gouty people with a great deal of satyrical wit, at the same time gives an excellent picture of this disease, brings in the gout just as it is about to invade *Ocypus*, speaking as follows :

Ego, quam mordet ira (quidni feminam ?)
Morsu hunc remordi certo & insanabili,
Ut est solenne mihi ferire artum pedis ;
Et jam dolor dirus parvum tenet locum,
Soleamque terebrat imam punctiōibus.

“ I, like a furious female vex’d at heart,
 “ Have, as my custom is, with woeful smart,
 “ Fix’d in his foot-sole my invenom’d sting,
 “ Which, tho’ contain’d in little, yet doth bring
 “ Much cruel anguish to his tortur’d feet.”

Whilst intending to punish the two physicians who had boasted of a secret, which, rubbed upon the parts, removed the pain immediately, she calls the *Pæne* forth from their bacchanalian friends, and gives the following orders to the gouty powers^e.

———— *Tu quidem pedum extimas*
Soleas adurito, digitos ad usque pedum ;
Tu malleolas invade ; tuque a femoribus
Ad genua stilla amaram in intima saniem ;
Sed vos manuum digitos agite, constringite.

“ You—burn the toes and joints of both their feet ;
 “ You—prey upon their ancles ; from their hips
 “ Down to their knees do you be sure diffuse
 “ The deep-corroding juice ; and you—as soon
 “ Their finger-knuckles and their wrists invade.”

And though she inflicts all the torments of every species of the gout upon the wretches, and obliges them to confess, *Podagram non deliniri pharmacis, non ob-*
sequi,

^d Tom. III. pag. 666. ^e Ibid. pag. 661.

sequi, “ that the gout is neither obedient to, nor
 “ will be soothed in the least by, the power of me-
 “ dicine ;” yet she still begins at the feet ; as also ^f
 when she enumerates all the parts of the body, which
adedit, depascitur, urit, tenet, inflammat, coquit, “ she
 “ gnaws, wastes, burns, shackles, inflames, and
 “ vexes.”

I have often admired the exactness of *Lucian's* description of this disorder, when I compared it with *Sydenham's*^g : for in his account of the progress of the gout, he says, *Est ubi femur occupans, exhibit quasi ingentis ponderis appensi, sine dolore tamen notabili ; at genu exinde petens id acrius urget, motum omnem inhibens, ut quasi clavo transacto, lectulo affixum ne latum pilum a loco, in quo est, se queat dimovere*, “ when it fixes on the
 “ thigh, there arises the sense of a vast weight hung,
 “ as it were, on the part, without any remarkable
 “ pain however : then getting down into the knee,
 “ it is somewhat more outrageous, taking away all
 “ power of motion, and, fixing it like a nail so close
 “ to the bed, that it cannot by any means move a
 “ hair's breadth from the place where it is once
 “ laid :” so in *Lucian*, the gout does not order her ministers to gall and vex the thighs, but *a femoribus ad genua stillare amaram in intima saniem*, “ to distill
 “ a bitter sanies from the thigh into the inner parts
 “ of the knee ;” which entirely agrees with the observation of *Sydenham*.

The seat of the disorder is marked thus by *Aretæus*^h. *Initio vero nervi articularum, vincula, & quæcunque ex ossibus exortæ sunt, & in ossa inseruntur* :
 “ at first, the nerves, ligaments, and whatever rise
 “ out of the bones, or are inserted into them.” He points out the places too, where in gouty people the pains are for the first time felt. *Magnum pedis digi-*

E 3

gitum

^f Ibid. pag. 652.

^g De podagra, pag. 551.

^h De caus. & sign. morbor. diuturn. Lib. II. cap. 12. p. 65.

gitum dolor occupat ; rursum calcem in priori parte qua nitimur ; deinde in concavam subit : malleolus autem postremus intumescit : “ the pain first seizes the great toe ;
 “ next, the edge of the heel that first touches the
 “ ground when we walk ; next, the hollow of the
 “ foot ; and, last of all, the ancles swell.” This also agrees with the observations of Sydenham : for, first, *dolorem ut plurimum occupare pedis pollicem, quandoque calcareum, suram aut talum*ⁱ, “ the pain generally fixes
 “ on the great toe ; sometimes on the heel ; sometimes on the leg and ancles.” From whence he afterwards concludes in general, that in this disease^k, *pedes esse sedem genuinam peccantis materiæ, quæ cum alias quaslibet partes occupat, certissimum est, vel morbi methodum inversum esse, vel corporis vigorem paulatim jam imminutum,* “ the feet are the genuine true seat
 “ of the peccant matter, which may, without doubt,
 “ fix itself on other parts ; but in that case, it is
 “ plain, that either the progress of the distemper is
 “ inverted, or the patient’s strength, from repeated
 “ attacks, is now gradually impaired.”

Now, if we consider with how much difficulty the liquids pass through these parts, which are generally first attacked by this disease, we may form no improbable notion why the gout is observed, for the most part, to begin at the feet : for these suffer a very great pressure upon the parts about the heel, having the weight of the whole body to sustain ; and, being far removed from the source of circulatory motion, the heart, they are subject to cold and moisture ; and the liquids, that are brought down to them through the arteries, by course of circulation ascending through the veins again, have the general effort of gravitation to overcome. All these things plainly demonstrate how easily matter of one kind or other may be retained and collected at these places. If at the same time we consider the number of ligaments, tendons,

ⁱ De podagra, pag. 547.

^k Ibidem, pag. 550.

tendons, &c. parts which appear from anatomical injections to have vessels of incredible minuteness, we shall be at no loss to comprehend how numerous the obstacles are to a free circulation of the humours. The feet too are liable to hurts in walking, leaping, or from a sudden fall, &c. from which accidents, as *Ægineta*¹ observes, many have got the first experience of this distemper.

And this is farther confirmed, from observing, that the disease is much more frequent among the old, and such as are growing in years, many of whose smaller vessels are shut up, than with young people, whose vessels are all open and pervious, and easily yield to the impulse of the humours. The feet too are liable to hurts in walking, leaping, or from a sudden fall, &c. from which, as *Ægineta* observes, many have the first experience of this painful disorder. The morbidick matter being ready prepared, as it were, and at hand, is brought to exert itself first from this mischance. I myself remember to have seen a person who strained his foot exceeding painfully, and ere he recovered of the hurt, had a smart fit of the gout; nor could he by any means believe it to be that distemper till about a year afterwards, that it paid him a second visit. It is with great propriety, therefore, that in *Lucian*^m, when the chorus of gouty people are brought in singing the praises of the goddess *Podagra*, among other epithets she is called ἐπιδυσμοχαρὲς, as delighting chiefly to affect the ligaments.

I have known, indeed, some very eminent physicians, who, neither wishing to mislead, nor very apt to be misled themselves, have from experiments concluded, that the ligaments were destitute of all sensibility, and could not be the seat of gouty pains; but that it must have its residence in the skin alone, and

E 4

the

¹ Lib. III. cap. 78. pag. 57. ^m Tom. III. pag. 656.

the nerves which run along its internal surfaceⁿ. And yet there are others too, men of the greatest name, who, from observation, confirmed likewise by experiment, have maintained a contrary opinion. Sydenham^o, thus describing all the particular sufferings of the gout, says, *Dolor autem his, primo remissior, gradatim intenditur; idque in singulas horas, donec tandem ad apicem pervenerit; sed ad varietatem ossiculorum tarfi & metatarsi, quorum ligamenta obsidet, perbelle accommodans, tunc tensionem violentam, vel ligamentorum istorum dilacerationem, nunc morsum canis rodentis, quandoque pressuram & coarctationem exprimens: ad hæc ita vivum exquisitumque habet sensum, ut nec linteorum superincumbentium pondus, nec cubiculi a fortiori ambulatione concussum ferre valent.* “ But this pain is at first easier; “ then every hour it becomes gradually more and “ more intense, till it reach the highest pitch; the “ degree of pain nicely answering to all the variety “ of little bones composing the *tarsus* and *metatarsus*, “ whose ligaments it besets, sometimes resembling a “ violent tension and dilaceration of these ligaments, “ sometimes resembling the gnawing of a dog, and “ sometimes like a close tightness and strong compression: nay, so lively and exquisite is the pain “ sometimes, that the very weight of the bed-cloaths, “ or the motion of the bed, from a person’s walking “ across the room, become even unsufferable.”

Now I can scarcely think that Sydenham ever entertained a notion of this exquisite tormenting pain’s being seated in the skin alone. Besides, he remarks^p, that the least motion of the part affected raised that kind of pain, *qui eo tantum nomine potest tolerari, quod confestim evanescat, &c. dolor enim vehementior non per omnem paroxysmum extenditur, si modo pars affecta omnino quiescat,* “ which just could hardly be called “ tolerable,

ⁿ Hahler dissertat. sur les parties irritables & sensibles, &c. pag. 20. ^o De podagra, pag. 547. ^p Ibidem, pag. 551.

“ tolerable, and went off directly, &c. for the very
 “ exquisite pain did not continue through the whole
 “ time of the fit, provided the afflicted limb was
 “ suffered to lie at rest.”

Again, let us consider how highly painful this distemper is observed to be, when there is neither any apparent swelling on the part, nor change of colour on the skin : let us consider too the relief that follows from the swelling and redness of the skin coming on^a ; as we have an example of this in the case of a physician who laboured under a hereditary gout : when the pain was arrived to its utmost pitch of severity, the joint swelled, the skin grew red and inflamed ; and whilst the parts were thus in the highest degree of tumour and inflammation, his pains abated ; which pains, on the contrary, must have been very intense, had the disease been seated in the skin only, and not rather in the parts enumerated in the text. Add to this the exceeding debility this distemper leaves in the parts after the fit is gone, occasioned from its residing within the joints ; which, in course of time, deprives them sometimes of their motion altogether.

S E C T. MCCLX.

WHEN these parts, (§ 1259.) are at length shut up by obstruction, tumour, or any matter crammed up in them ; or, if the gouty matter by any cause whatever is thrown and dispersed into other places of the body, then it makes its attacks on different parts, besetting, however, at the same time, all the former parts and places mentioned, § 1259.

In the first fit of a regular gout one or other of the feet is commonly attacked : sometimes, when the

^a De podagra, pag. 548. Coste traité sur la goutte, pag. 60.

the disease grows stronger, both feet are, at the same time, affected, *si materia podagræ generandæ apta fuerit copiosior*¹, “ if the gouty matter happen to be more
 “ redundant :” for the most part, however, one foot is affected after the other, in succession. But when the disease has been put out of its natural course by any improper means of cure; *vel ob diuturniorem morbi pertinaciam, corporis substantia quasi in morbi fomittem convertitur, neque par est natura eidem methodo consueta eliminando*²; or by the length and obstinacy
 “ of the distemper the whole substance of the body
 “ is converted, as it were, into a gouty leaven; or
 “ when nature is not able to throw it off in the usual
 “ way ;” then it not only seizes the feet, hands, wrists, elbows, knees, and other parts of the body, and even many of them together at one and the same time; but also the parts, which were formerly infested, undergo sometimes a most surprising change: the vessels, stuffed up, and pressed from without, by the adjacent swelling of the part, are, by this means, rendered unfit to receive the gouty matter, which, finding no admission here, discharges itself at last on other parts of the body: whence *Aretæus* had reason to say³, *Nam si majora membra occupaverit morbum ipsum capere valentia, organa illa non supergreditur*; “ for had the member, it occupied at first, been large enough to have contained it, the other parts would have escaped
 “ free.” However, it travels all over the body, yet in such a way, as principally to fix on the parts enumerated in the preceding paragraph. *Plerumque a pedibus in manus prosilit: neque enim multum refert in pedibusne, an fiat in manibus, quum utrique ejusdem naturæ sint, graciles, excarnes, externo frigore proximi, a calore interno remotissimi.* “ Commonly it passes
 “ quickly from the feet to the hands: nor is it very
 “ material

¹ Sydenham de podagra, pag. 448.

² Ibidem, pag. 550.

³ De caus. et sign. morbor. diuturn. Lib. II. cap. 12. pag. 66.

“ material which of them it occupies, seeing these
 “ parts are in their nature so very similar ; not at
 “ all fleshy, but slender, much exposed to the effects of
 “ cold, and very remote from the source of internal
 “ heat.” He afterwards remarks how surprisngly
 the disorder gains ground, and recounts all the va-
 rious parts which sometimes are affected; *Post omnia*
nares, & aures, & labia, inficiuntur; “ the nostrils,
 “ ears, and lips, are injured last of all.” These ob-
 servations are in general confirmed by *Ætius* ^u. *Qui*
vero extreme ab hac affectione apprehenduntur, his &
spinæ vertebræ, & costarum juncturæ, & genæ, dolent;
aliquibus autem & guttur; neque est aliqua ossium connexio
quæ ab hac affectione sit immunis. “ Persons, in a high-
 “ ly-confirmed gouty habit, are afflicted with pain
 “ in the joints of the *vertebræ*, in the ribs, and also in
 “ the cheek-bones; and some have pains about
 “ their throat, there being hardly indeed a joint in
 “ the whole body that escapes.”

We shall see afterwards (§ 1273.) how this gouty
 matter, hindered from discharging itself on the ac-
 customed places, lays hold on the *viscera*, and produces
 the most surprizing and dangerous symptoms.

Whence it is plain, that the gout is naturally di-
 rected to the joints; but when the morbidick matter
 is either too redundant, or can no more find admission
 into the usual places as formerly, it may then be di-
 spersed over every part of the body.

This is very often observed in long standing
 gouts. Thus *Du Hahn* says, he saw a case ^w where
 the fit once began in the right hand, then seized
 upon the elbow and right foot, at the same
 time attacking the left side, where the ribs appeared
 to be raised a little, and streaked with a reddish co-
 lour: from thence it passed on to the left hand, and
 so down to the foot of the same side. But the pa-
 tient's

^u Sermon. XII. cap. 6. pag. 308.

^w *Hist. podagr. eminentiss. &c.* pag. 5, 6.

tient's face was also covered over with frequent and burning flushings; and *ardor quidem, cum igne lambente comparandus, totum caput exagitabat, molesto adeo sensu, ut vel levissima tegumenta jugiter a capite raso removeret æger, &c.* Tricesima septima agebatur dies, qua nucha tumor, rigor, & calor auctus, & pervigilium, & verticis dolor, spasmusque genu alterius, negotium faciebant; “ a burning heat, like flaming fire, harrassed
 “ his whole head, with so troublesome a sensation, that
 “ he could not bear even the slightest covering a moment upon it. Three hundred and thirty-seven
 “ days had now passed, when a stiffness and tumour
 “ in the neck, a more intense degree of heat, want
 “ of sleep, extreme pain a-top of the head, and
 “ spasm in one of his knees, were all at work together
 “ upon him.” In another paroxysm the disorder began at the right foot: seven days after, it affected the ribs of the left side, occasioning a difficulty in breathing, and the greatest uneasiness in swallowing: then the pain seized upon the left ear, elbow, and hand^x: the lingual bones too, of the same person, he observes, were affected; attended at the same time with a troublesome spasm, which hindered his deglutition; but, the same day, as soon as the pain came into his hand, this uneasiness of the throat went off^y.

Platerus affirms^z, that he has seen nodes, full of concreted gouty matter, grow up in the ear itself, nay, in *mercatore podagrigo diu & misere afflicto ex toto corpore, per poros, adeo ut etiam palpebræ oculorum non exemptæ fuerint, ejusmodi materiem gypseam, circa poros cutis mox in tophos mutatam prodiisse, observavit*, “ he
 “ observed once, in a merchant, who had been long
 “ and miserably afflicted all over his body, to the
 “ very pores, not even the eyelids exempted, a chalky kind of substance, of the same nature, which,
 “ gather-

^x Histor. podagr. eminentiss. &c. pag. 5.

^y Ibidem, pag. 21.

^z Prax. medic. Tom. II. pag. 598.

“ gathering about the pores of the skin, rose up into
“ *tophi*.”

Many instances of this kind have also come under my own observation; but these are sufficient to shew how extensive the dominion of the gout is, when deeply rooted, over the whole body. We have therefore in course to consider the particular symptoms that affect the patient during the time of the paroxysm, and in what order they use to succeed one another, and after what manner they at last entirely disappear.

S E C T. MCCLXI.

TH E patient immediately is sensible of a stretching, tearing, straitening pain, gradually increasing, and again decreasing with a moisture, redness, tumour, ending with a *diaphoresis*, keeping warm in bed, an itching, scaling, or by generating a chalky matter, which tears the vessels and ligaments of the joints, despoiling them of their figure, motion, and use.

There is no one can describe a disease more accurately than a physician who has himself been a sufferer; and more especially if he has been accustomed to the observation of diseases, not in a cursory or hasty manner, but with due and accurate attention. Thus *Sydenham* actually describes his own sufferings; and for this reason it is, that his treatise on the gout is so justly admired by all.

For notwithstanding, as we have already observed, (§ 1257.) there are certain changes in the body, which commonly precede a fit when near at hand yet they are so slight, that many either heed them not at all,
or

or ascribe them to some particular error in their diet: nay, although they are suspicious, and in fear of an attack, they are yet never certain, and therefore it always comes upon them of a sudden and unexpected. People seemingly go to bed in good health, and are wakened at midnight, *Et somno excussi exclamant subito*, “and roused from their sleep cry out suddenly.” *Dolor autem eum refert qui ossium dissociationem comitatur cum sensu quasi aquæ tantum non frigidæ, partis affectæ membranis affusæ; mox sequitur rigor, cum horrore Et febricitatione aliqua*. “But the pain is like a violent forcing of the bones asunder, accompanied with a sensation as if cold water was pouring into the membranes of the part affected: then succeeds a stiffness and shivering, with some degree of feverishness.” I have heard persons complain miserably, as if a wedge was, by degrees, driven in between the bones, racking and tearing all about them: there is often too a most painful stretching of the *tendo Achillis; nervumque tendit vir sagittator velut telum emissurus*, “as an archer stretches his bow ere he lets fly his arrow^d :” and the goddess *Podagra*^e boasts that, *animadvertente nullo incurrens artubus*, “all unobserved into the joints she runs.” *Coste*^f remarks too, that the fit is always more or less severe in proportion to the degree of fever in the beginning. *Dolor autem hic primo remissior, gradatim intenditur (Et pari passu rigor atque horror recedunt); idque in singulas horas, donec tandem sub noctem ad apicem pervenerit*^g. “The pain is at first gentle; by degrees it becomes more intense (the stiffness and shivering going off by the like degrees): thus every hour it goes on, till the evening, when it arrives at its utmost pitch of severity.” Then

^b Lucian. Tom. III. pag. 670.

^c Sydenham tractat. de podagra, pag. 547.

^d Lucian. Tom. III. pag. 666.

^e Ibid. 665.

^f Traité sur la goutte, pag. 61.

^g Sydenham de podag. pag. 547.

Then the miserable sufferers express the sensation of their torments variously; some perceive, as it were, a tightness and strong compression; others, a gnawing; and some again cry out, there is a burning coal within the part: for the gout *adedit, depascitur, urit, tenet, inflammat, coquit*^b, “gnaws, wastes, frets, possesses, inflames and vexes.” Through the bitterness of pain the patients commonly throw about all the members that are untouched, and are perpetually trying to find relief from changing the posture of their body, or situation of the parts affected; *quod tamen vix inveniunt nisi decurso nycthemeri spatio a primo appulsu paroxysmi*; quo tempore ægri post *materiæ peccantis modicam digestionem, & distensionem aliqualem, subito a dolore respirunt*; licet hanc illi liberationem isti membri affecti *posituræ qua postremouiserant immerito acceptam referant*; “which yet they seldom obtain till twenty-four hours after the first attack of the fit; at which time the patients feel a sudden respite from their pain, when the matter comes to be in some measure digested, or dissipated, though they commonly, yet very unjustly, ascribe this sudden ease to their having luckily found out a better posture for their affected limb.” A hundred times I have heard gouty people chide their domesticks very severely, because they could not sooner hit upon that particular situation which had, as they thought, given them this immediate relief; and, when they have been persons of angry tempers, they have, on some occasions, either increased the distemper by their untimely passion, or, at least, diverted it from its natural course.

A gentle moisture of the skin soon follows; and then, by degrees, a quiet sleep steals on, out of which when they awake, they rejoice to find *dolore multum imminuto, partem affectam tumore recenter occupatam cernunt, cum solum antebac (quod in omnibus podagricorum paroxysmis*

^b Lucian. Tom. III. page 652.

ⁱ Sydenham de podagr. p. 548.

paroxysmis solenne est) insignior intumescencia venarum membro vexato intertextarum se in conspectum dederat^k,
 “ the pain very much abated, and the part affected
 “ begun to swell all over; for before this there was no-
 “ thing to be seen of this kind, but the veins remark-
 “ ably tumified, and interwoven, as it were, with the
 “ substance of the part; a thing that is common in
 “ all paroxysms of the gout.”

A dryness of the whole skin, when persons are under very severe fits of pain, is usually seen, not only in the gout; but also in many other disorders; and whenever this is succeeded by a moisture of the whole skin, and particularly on the part affected, the patients generally are relieved from pain. This I have often observed in colick pains, tooth-aches, and pains of the ear, that were almost intolerable. Hot sudorifick medicines are not however thought proper in these cases, as they rather increase the heat and dryness; diluent, emollient, and relaxing medicines, externally or internally administered, are found of much greater efficacy. In gouty people again, when the cause of their pain is subdued, and changed by the warmth of the bed, and a slight degree of fever, the cutaneous vessels, formerly blocked up and constricted, are now opened and set free. How excellently this is set forth by *Lucian*^l, where he brings in a person, in great misery from the gout, recounting all his sufferings!

*Ut aridum atque ærumnabile corpus meum
 Manibus a summis, ad pedum vestigia,
 Sanie mala atque amaro succo felleo
 Violento spiritu clausus meatibus
 Constitit ut clausum dolores exacuit!*

“ How is this dry and grievous corpse of mine,
 “ From fingers ends to soles of feet and toes,
 “ By

^k Sydenham de podagr. pag. 548.

^l Tom. III. pag. 564.

By gnawing humour's vile corruption maim'd,
That with astringent steams contracts my pores,
Enters the sinews, and with exquisite pains
Renders my life a burthen insupportable.

Lucian translated by several hands, Vol. III. page 189.

It is observed, that the severest of all gout is that in which there is neither swelling nor change of colour upon the part; because it is likely the morbid matter is locked up and retained in the finer vessels. *Hippocrates*^m, after having remarked that the gout is, of all the disorders that infest the joints, the most violent and lasting, and the most difficult in its crisis, adds, *At quo magis in tenuissimis fuerit venulis, ac in plurima corporis necessitate constitutis, & in nervis & ossibus multis ac densis, eo sane tum permanentissimus morbus est, tum ægerrime profligatur;* “ but “ as this disease chiefly resides in the most minute “ vessels, and in parts so constantly necessary to the “ body on all occasions, as also in ligaments, and “ even in bones that are so dense, it is therefore the “ most lasting of all disorders, and hardly ever to be “ subdued.” Hence too may appear the reason why the ancients distinguished the gout into hot and cold; for, when they saw a joint seized by the gout swell, look red, and grow hot, they classed this disorder among the hot tumoursⁿ. *Quod si dolor in intimis nervis demoretur, & articulus non calens collapsus sit, neque extumeat, frigidum hunc esse dixerim;* “ but if the pain “ was deep seated in the ligaments, and the joint remained of its usual size, without heat or swelling, “ that I should term a cold kind.” And in this last case he prescribes warm stimulating remedies: *calliditas enim collapsas partes in tumorem excitat, & internam calorem ad superficiem evocat;* “ for warmth excites the parts to swell, and draws forth the internal

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“ nal

^m De affection. cap. 8. Charter. Tom. VII. pag. 629.

ⁿ Aretæus de caus. et sign. morb. diurn. Lib. II. cap. 12. pag. 67.

“nal heat towards the surface.” That exceeding cruel kind of gout, which finishes its course without either redness or swelling on the part, we very seldom meet with ; for generally, though there is no tumour or redness in the beginning of a paroxysm, yet always, as the disorder takes a more favourable turn, the swelling and redness appear upon the part. Hence *Aretæus*^o, from generally observing this change, advises the use of warm medicines in cases where the part is long of swelling, and to change to a cooler regimen as soon as the tumour and redness appear : then he adds, (*Atque ut compendia dicam*) *calore in principio, frigiditate in fine, opus est.* “ (In short, to say all) warmth and heat is requisite in the beginning, and coolness towards the end.” The like division of the gout into hot and cold we read in *Cæl. Aurelian.*^p to which he subjoins, *Item initio, ut sæpe contigit, similis color patientium atque sanarum videtur partium, attestante æqualitate, nullo emergente tumore. Dehinc inflatio partium fit cum rubore: quapropter relevatio altiorum sæpe sequetur.* “ Likewise in the beginning, as it often happens, there seems to be no difference, with regard to size, between the sound and affected parts, nor any thing like tumour ; but afterwards a swelling of the part, with redness, appears ; which often gives a thorough relief to all the parts below.” *Lucian*^q has marked out this too with great accuracy ; for when the physician inquires of *Ocypus* the cause of his pain, and he again, willing to conceal his disease, tells him, that it must have been a blow upon his foot, though in fact he had gone very well to bed ; the physician, who very well knew, that in the beginning of a paroxysm nothing besides pain ever discovered itself, replies,

*Cur non adest gravis inflammatio
Ipso in loco, nec humidum fomentum habes ?*

“ Why

^o Aretæus de caus. & sign. morb. diuturn. Lib. II. cap. 12. pag. 67.

^p Morbor. chronic. Lib. V. cap. 2. pag. 559.

^q Tom. III. pag. 669.

“ Why was there not a grievous inflammation,
 “ Or, to the parts applied, a fomentation ?

For in places of exercise there were always physicians at hand, *quoniam inter exercendum sæpe vulnera, contusiones, contorsiones, multaque alia fieri solent* ; “ be-
 “ cause in these places, wounds, contusions, violent
 “ strains, and luxations, were frequently happening ; ”
 as appears from a passage in *Galen* * I formerly quoted
 on another occasion, (§ 164.) for, in the *palestra*, a
 person's clavicle had been separated from the *acro-*
mion, and the master, *παιδρηγῆς*, taking it for a lux-
 ation of the *humerus*, made a proper extension, and
 endeavoured to reduce it ; and *Galen* affirms, he went
 very dexterously about this operation : from this it ap-
 pears, that, in such places of exercise, there were
 persons always ready at hand, upon any accidental
 hurt, to give their assistance : the physician therefore
 might ask *Ocypus*, very properly, why he had no fo-
 mentation administered, seeing it was in the place of
 exercise he pretended to receive the hurt.

The antients, observing the suddenness of the
 gout, its seizing first on the remoter parts of the lower
 extremities, the varicous disposition of the veins, the
 extreme pain excited, and, last of all, the swelling of
 the part, thought that the morbidick matter must be
 derived from somewhere else unto the part affected ;
 and this derivation they termed defluxion, *ἀπὸ τῆ χα-*
ραππέειν, from flowing ; and this they believed to be the
 cause in general of all the disorders in the joints. So
Ætius † says, *Podagrica & arthritica affectio ejusdem*
speciei inter se existunt. Differt autem podagra ab arthri-
tide, non toto genere, sed affectis locis, in omnibus enim
debilitas articulorum diuturna est cum defluxione. “ The

F 2.

“ gouty

* Mercurial. de arte Gymnastic. Lib. I. cap. 12. pag. 95.

† Commentar. I. in Hippocrat. de articul. Chart. Tom. 12.
 pag. 322. † Sermon. XII. cap. 6. pag. 308.

“gouty and arthritick disorders are, in their nature,
 “of the same species. The gout, however, differs
 “not, in general, from the arthritick distemper, but
 “only in regard to the part affected; for in both
 “there is a debility of the joints, accompanied with
 “defluxion of humours.” What confirmed them
 the more in this opinion was, they observed the
 morbidick matter, at a certain distance of time, accu-
 mulate, and then discharge itself at the same places as
 formerly: besides, they saw that crudities, occasion-
 ed by errors in diet, cherished and helped to bring
 on the distemper, and, on the contrary, that it was
 cured, or prevented, by a soberer and more regular
 way of living: they considered, at the same time, that
 the paroxysms of this disease were greatly accelerated
 by *ambulationes concitatiores quam pro more, & stationes*
diu productæ, & familiares excretiones expressæ, & consue-
torum exercitiorum intermissiones“, “unusual fatigue in
 “walking fast, too long continuance of a standing
 “posture, obstruction of any ordinary evacuation, or
 “laying aside too suddenly an accustomed exercise:”
 to all which causes they ascribed that debility of the
 joints, which rendered these parts fitter to receive,
 and of course to determine the morbidick matter to
 discharge itself upon them.

Helmont“, who on all occasions shews himself a
 declared enemy to the antients, explodes this opinion,
 and endeavours to overturn all this whole story of a
 catarrh. He first lays it down as a certain principle,
 what we have already mentioned, § 1255. *Podagram,*
sive per parentum semina labatur in hæredes, sive demum
proprio vivendi errore contrahatur, unius et ejusdem speciei
esse cum omni proprietate illam stipante; “that the
 “gout, whether it takes its rise from a hereditary
 “taint, or contracted by any error in the way of li-
 “ving, is always uniform, and of the same species,
 “alike

“ Sermon. XII. cap. 7.

“ In capitulo: volup. vivent. morb. pag. 31. & seq.

“ alike in every circumstance:” then adds, *hæreditariam saltem podagram non derivari a catarrho, si in semine hujusque constituto, per triginta annos insensilis latuit*, “ that at least an hereditary gout cannot be derived from a catarrh, since it must then have remained unobserved in the body for thirty years together:” whence he concludes, *si podagra hæreditaria careat catarrho, ergo & quævis alia; cum unius rei in specie semper sit eadem specifica constitutiva initia*, “ that seeing the hereditary kind was not derived from a catarrh, any other kind, therefore, as being of the same species, could not; since, in things of the same species, the original essential principles were the same:” and forasmuch as the pains of the gout, even the most severe, happen where no tumour appears, the swelling never appearing before the pain, but always after; for that reason, he positively denies the defluxion of the humours, or the swelling, to be in any way the cause of this disorder: he then proceeds to censure the practice of all the physicians in general in regard to this distemper.

But surely, had *Helmont* examined the writings of the antient physicians with a little more calmness, I am apt to think he would not have insulted, with so much acrimony, opinions which took not their rise from the roivings of unbridled fancy, but from careful and accurate observation into the nature of diseases. Here, perhaps, it may not be improper briefly to consider the circumstances that attend a catarrh, properly so called.

For the most part, it begins with a sense of heaviness, and sometimes an obtuse pain in the head, especially about the forehead. The eyes pour out abundance of tears, and a sneezing comes on: soon after, the inner membranes of the nostrils begin to swell so as to hinder the breathing by the nose, and therefore the patient is forced to sleep with his mouth open; then succeeds a plentiful distillation or

a thin, acrid, saltish lymph, that excoriates the inside of the nostrils and upper lip; which flows in such abundance, that a person, who at other times has seldom occasion to wipe his nose, shall very soon wet several handkerchiefs: a troublesome cough too soon follows, nay, sometimes accompanies it from the first, which brings nothing up besides a thin liquor, like that which distils from the nostrils: the consequence of this is, a very disagreeable pain at the lower part of the breast. By keeping in a warm room, and using a mild diet, with emollient softening remedies, the humour, formerly sharp and thin, becomes milder, and of a thicker consistence; that which drills from the nose, grows thick and yellow, like well-digested pus, and what the patient spits up is like the same. By degrees, the tumified membranes of the nostrils subside, the people recover, and usually find themselves in better health than before the catarrh. A sluggishness and obtuse pain over all the joints commonly accompany a catarrh, and the whole body feels unusually heavy. Do not all these symptoms plainly shew that the disease, taking its rise at the head, gradually descends to the inferior parts? The antients then were not so much in the wrong when they made use of the term *de-fluxion*.

Moreover, the *œsophagus*, stomach and intestines, are all covered internally with a membrane that separates a *mucus*: therefore, as the disorder goes downwards, these parts are affected in like manner: hence vomiting of phlegm, mucous stools, and genuine mucous diarrhæas, not only in the younger kind of patients, who commonly swallow their catarrhous spittle, but in grown people likewise, as we have already mentioned, (§ 719.) Nay, it seems very probable, that a uterine *fluor albus* of the milder kind, that does not spring from any ulcerous disposition of the

the *uterus*, may chiefly be owing to some such cause. *Charleton*^x calls a *fluor albus* the rheumatism of the *uterus*, and remarks, that sometimes, *narium mucum spissitudine & lentore æquet*, “ it exactly resembles the *mucus* “ of the nose in thickness of consistence and toughness ;” and, a little after, when recounting the causes of the uterine *fluor albus*, he says^y, *Cæterum variae sunt ætiones hujus uterinæ causæ, tum procatareticæ, tum antecedentes, aeris nimirum intemperies, frigidior simul ac humidior, sive a regione, sive a situ, sive ab omni tempore, sive a cæli statu, talis existit.* “ But the causes “ of this *atonias*, indisposition or relaxation of the “ *uterus*, are various ; both the antecedent and immediate may depend, for instance, upon a vitious “ temperament of the air with regard to cold or “ humidity, whether arising from the place, situation, state of the weather, or season of the year.” Now it is well known, that a too cold or too humid disposition of the air is highly favourable to the producing catarrhs. In a sharp and clear frost there is hardly a person at church to be heard coughing ; but, soon as a thaw comes, and the air is very humid, the cough becomes universal. *Hippocrates*^z, in treating of the *fluor albus*, appears to have entertained some such notion : for, speaking of the *uterus* being filled with pituitous humours, he says, *Interrogare igitur eam oportet, num quod defluit mordeat, atque exulceret ; atque si non mordeat, a cerebro defluere asserito ;* “ you “ are to ask the patient, whether or not the matter “ be sharp and painful ; for matter, that flows to excess, smarts and exulcerates ; but, if it does not “ smart, then you may pronounce it to come from “ the brain.” Now we know the antients believed catarrhs to be derived from the brain, which they took to be of a cold nature, and no ways sanguineous.

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And

^x De catamen. & rheumatismo uteri, pag. 156.

^y Ibid. pag. 173.

^z De natur. muliebri, cap. 10. Chart. Tom. 7. pag. 686.

And a little after^{*}, speaking of the inner surface of the sockets of the joints being covered with pituitous *mucus* as a cause of abortion, he says, *hoc autem modo noveris: humida fit & mucosum glutinosumque defluit, neque mordet*; “you shall know it by this mark: a thick soft *mucus* flows down, that has no “acrimony.”—It is well known, that all the cavities and protuberances of the joints are continually anointed with a soft oily *mucus*, which is partly secreted from the glands within the joints, and partly from the whole internal surface of the capsular ligament that surrounds the articulations: if the same change then happens to these parts as to the membranes that cover the nostrils, *fauces* and lungs, very troublesome disorders must be the consequence; such as pains, swellings, &c. and indeed from the very same causes. In the spring and autumn, catarrhs and *coryzæ* are very frequent, the weather at these times being much more variable; at these times too diseases of the joints prevail. Any one, who being very warm, exposes his body to a sharp cold air imprudently, will find a catarrh soon follow: hence it is called in general a cold. But there are instances of persons, who, after the most painful sufferings, have lost the use of their limbs entirely, and all from the very same causes: such was that of *Alexander* the Great, mentioned already, (§ 118.) who, whilst his body was very hot, threw himself into the coldest part of a river, and was immediately seized with a shivering and stiffness in every joint.

If all these things then are duly considered, I believe it will appear, that *Helmont* had little reason to be so very outrageous against the antient physicians, and to give their schools of physick the nick name of catarrhus, because they were so fond of the notion of a catarrh. That the morbid matter, existent, and gradually accumulated, some time perhaps lying inactive,

* De natur. muliebri, cap. 17. pag. 689.

inactive, but now put in motion, sooner or later deposes itself at the joints, and so produces the gout, appears pretty plain from the symptoms of the injured functions, mentioned, § 1257. but since the disease, for the most part, falls upon the joints of the lower extremity, it may therefore be said, very justly, to descend.

Hath *Helmont* himself given a better account of this affair? he doubtless allows, that the gouty matter descends from the *præcordia*: but let us hear him in his own odd, obscure manner of expression. *Itaque podagra est character morbidus seminaliter in spiritu vitæ insertus, qui sui maturitatis terminis fructum acidum fermentalem gignit spermaticis partibus confermentabilem. Non existit ergo podagra in cruore, multoque minus in excrementis. Verum podagrici primum agitantur in præcordiis, & tam internas potuum atque ciborum, quam externas aeris vicissitudines sentiunt; imo & sæpe has futuras præfagiunt, quare patiuntur febriles motus primum circa officinam spiritus vitalis, ac quidem paroxysmi initiis. Etenim primi motus e præcordiis ascendunt, sedem animæ sensitivæ adoriuntur; conceptus namque in præcordiis character Lunæ atque Mercurii typos explicat, atqui deinde in corde perficitur. Formatus autem, sive maturatus character spiritum ibidem febrilem induit quatenus inficit. Qui simul atque acorem symboli vitæ, sive fermentalem concipit motu febrili abigitur squalens, & ad loca destinata (crudi videlicet spermatis in synovia articularum) febriliter defertur. Spiritus sic infectus, & non humor (quod notandum) synoviam in se transparens, eum aciditate fermenti coagulat in grumum opacum: adeo ut præ ponticitatis conceptæ gradu, calores, dolores, tumoresque, podagræ distinguuntur. Laticem vero advocari doloris buccina, & per venas demitti ad eluendum certum est in scholis confirmasse defluxionum errores, &c.*
 “ The gout is therefore a morbid character or dis-
 “ position

^b In capitulo, volupe viventium mor. pag. 315. No. 8.

“ position implanted in the vital spirit, which pro-
 “ duces a fermentable acid as the fruit of its matu-
 “ rity, and easily fermentable with the spermatick
 “ parts of the body : the gout, therefore, by no
 “ means resides in the red blood, and far less in the ex-
 “ crementitious fluids ; for gouty persons feel all the
 “ commotions first about the *præcordia*, are greatly
 “ affected with what they eat or drink, as well as by
 “ the changes of weather, which they can even
 “ foretell to a nicety before they come : wherefore
 “ they always at first, and at the beginning of every
 “ paroxysm, feel a considerable degree of feverish
 “ commotion about the kitchen, or laboratory of
 “ the vital spirit : but the first commotions ascend
 “ from the *præcordia*, and attack the seat of the
 “ sensitive spirit ; for the character being conceived
 “ in the *præcordia*, resembles Luna and Mercury,
 “ and is afterwards completely ripened in the heart :
 “ thus formed and ripened, it displays a restless, fe-
 “ verish spirit, as far as it exerts its influence, which,
 “ soon as it has conceived the sharp fermentible
 “ mark of vigour and life, is thrown out like filth,
 “ and, with a febrile commotion, carried down to
 “ its place of destination, viz. the crude, spermatick
 “ matter in the *synovia* of the joints. For the spirit
 “ thus charged (and not the humour, observe) that
 “ gives the *synovia* its transparency, by its formen-
 “ tible acid coagulates the *synovia* into an opaque,
 “ grumous substance : so that the heat, pain and
 “ swelling of the gout, may be estimated from the
 “ degree and nature of this obstructing matter. But
 “ that there is a fountain of liquid, called forth by
 “ the trumpet of pain, and sent down here by the
 “ veins to cleanse it away, seems to be pretty evi-
 “ dent, even from the erroneous opinions of the
 “ schools concerning defluxion.”

I thought it not improper to introduce here this
 quotation, though somewhat long, from *Helmont*, in
 order

order to shew how many words, and these abundantly obscure, he has taken to say nothing but what the antients themselves have said in a far shorter and plainer manner, *viz.* that the cause of the gout lurks and lies quiet in the body, till being roused and set in action, it is at last deposited on the joints. He calls it a latent, morbifick spirit, and not a humour; but the antients have said, that the morbifick matter is pent up in the minute vessels, through which nothing besides the finest liquids can pass, as in the following paragraph will be still farther demonstrated. *Helmont* says, there is a source of liquid called forth by the sound of pain's trumpet; the antients, that the humours flow to the part affected.

How many times do we observe in diseases a something, altogether unknown but by its effects upon the body, disturb the whole frame, and convert the humours, that were before sound, into its own peculiar nature? These humours, thus changed, constitute the morbid matter, so called by physicians; and this morbid matter has often the power of propagating that very disease by contagion. In dysenteries, the putrid *mi-asma* is received by any person, or by-stander, near the patient that has it; and though it is inconceivably small and unperceivable, is yet sufficient to convert all the humours of the healthiest person into so much dysenterick taint. Let the finest thread, charged with variolous matter, be applied to the slightest wound of the skin, the received infection lies quiet for several days, then raises a fever, disorders the whole body, and converts the wholesome humours, so much into its own nature, that sometimes it spreads over all the surface of the body a numerous quantity of pustules all filled with infectious matter. May we not then, in the same manner, conceive how the gouty matter may, for a great length of time, lie quiet in the body, till at last, rendered active, it is deposited on certain parts, and then, converting the humours

humours to its own nature, dispose them to produce the like disease by infection? Thus it may appear, as well as from what hath been said, (§ 1255.) that the gout is not altogether free from suspicions of contagion.

Having then dispatched these, let us go on to consider the other particulars which happen during a paroxysm of this distemper.

When a gentle moisture appears upon the part affected, then begins the swelling, and the pain is considerably abated. *Sequente die, forte etiam ad biduum triduumve, si materia podagræ generandæ apta fuerit copiosior, dolet nonnihil pars affecta, idque vehementius die jam advesperascente, levatur autem sub galli cantu^c.*

“ The next day, or perhaps for two or three days
 “ more, if the gouty matter is redundant, the part af-
 “ fected feels a good deal of pain, which grows more
 “ severe towards the evening, and abates by the
 “ time the cock crows in the morning :” and the
 patient, if it is only the first or second fit of the
 distemper, recovers commonly very soon.

But when the disease is of a longer standing, *Inter paucos dies alter pes eodem dolore torquetur, quo is qui prior doluit ; vel si prior iste jam dolore desierit, debilitas quæ eum infirmaverat, mox evanescit, tam viribus, quam integra sanitate, isti pedi statim restitutus, perinde ac nunquam laboraverat, si modo dolor pedem nuper tentatum ferocius lancinet^d.*

“ In a few days the other foot
 “ is racked with the same degree of pain as the first ;
 “ or, if the pain has left the first-affected foot, the
 “ weakness that disabled it goes off immediately,
 “ and it recovers all its former strength, as if it had
 “ never been attacked, especially if the degree of
 “ pain in the recently-affected foot be very intense.”
 It plays the same tragedy over, and sometimes, when
 the matter is very redundant, attacks both feet at
 once ; and thus one fit is made up of several acces-
 sions

^c Sydenham de podag. pag. 485.

^d Ibidem.

sions of pain, till such time as the morbid matter is entirely dissipated. *Nam isti paroxysmi qui hominum incautorum ac minus perspicacium oculos animosque soli fere perstringunt & occupant, nihil prorsus aliud sunt, quam series & ordo symptomatum ab illo methodo pendentium, quo uti solet natura in materia morbum committente foras pellenda* ^c. “ For these paroxysms, which strike with
 “ amazement the heedless and undiscerning only,
 “ are nothing else but the series and order of symp-
 “ toms depending on that method nature takes to
 “ expel the morbid matter out of the body.”

But this morbid matter is sooner or slower in its expulsion in proportion to the quantity accumulated, and degree of strength in the patient to throw it off. In strong robust people, and those who are seldom attacked, the disease is over in fourteen days ^f: this *Lucian* ^g sets forth with great skill, where he introduces one in the gout as yet ignorant how far he was, Μύσῃν τῆς ἀνίκητης θεᾶς, initiated in the mysteries of this powerful goddess; and, leaning on his staff, goes out of doors to bask in the sun-shine.

*Nam decima hæc supra quintam lux, ni fallor est,
 Ex quo tenebris conclusus, & Phæbo carens,
 Cubilibus non stratis corpus macero.*

“ For now ’tis whole fifteen days that I, laid up
 “ In darken’d room, have been deny’d the light
 “ Of his enlivening beams, in ill-made bed,
 “ Tormented sore, but no where taking rest.”

Translation of *Lucian*, by several hands, Vol. III.

But, in senioribus, atque iis quos sæpius afflixit, duobus mensibus, iis vero qui vel annis, vel diuturniore morbi mora, fractiores jam sunt, non valedicit prius, quam æstas jam adultior eam fugaverat ^h, “ in aged people, and
 “ those

^c Sydenham de podag. pag. 577. ^f Ibidem, pag. 549.

^g Tom. III. pag. 648. ^h Sydenham de podag. pag. 549.

“ those who have had frequent fits two months ;
 “ but they who are greatly broke with years, or
 “ much reduced by the length and severity of the
 “ distemper, do not by any means get well till summer comes to their assistance, and drives it off.”

Neither is a confirmed gout very certain in regard to its termination ; the inclemency of the air, errors committed in the patient's diet and way of life, &c. all contribute to prolong it. Hence, perhaps, *Hippocrates*ⁱ determines on a middle period, which the disease may either exceed, or come short of : for thus he says ; *qui podagrici morbi sunt sedata inflammatione intra dies quadraginta desinunt*, “ gouty disorders, when the inflammation is gone, terminate
 “ in forty days : and *Galen*^k, commenting on this aphorism, observes, that *Hippocrates* takes notice of the fortieth day as critical to such diseases, as are not altogether chronical, and yet exceed the common period of acute distempers.

But there is something, yet more particular, takes place in a very inveterate kind of the gout. It was before observed, that a general paroxysm was made up of several lesser ones. *Tunc autem paroxysmus major, sive generalis, jam protractior quam olim fuerat invenitur, ita etiam paroxysmi particulares ex quibus generalior componitur diutius sæviunt singuli ; cum enim antea particulares illi non ultra unum alterumve diem excruciant, jam ubicunque sedem figunt, maxime si pedes, vel genua occupaverint, non ante decimum quartum diem castra movent*^l. “ For then every greater or general
 “ paroxysm continues longer than formerly, as also
 “ each particular fit, of which the greater one is
 “ composed, grows more severe : for at first they
 “ used not to last above two or three days ; whereas
 “ now, in whatever place they fix, especially if in the
 “ feet or knees, it is fourteen days before they terminate,

ⁱ Aphorism. 49. Sect. 6. Charter. Tom. IX. pag. 282.

^k Ibidem. ^l Sydenham tractat. de podagr. pag. 551.

“ minate, till the patients come at last to have the
 “ distemper continue almost the whole year, two or
 “ three months of summer only excepted,” and afterwards over and above the pain they suffer, they have a considerable degree of sickness, and a total want of appetite.

Moreover Sydenham observes ^m, that as long as the strength continues vigorous and lively, the pains are very strong and violent; but when the body is, thro’ age, or the continuance of the disorder, much weakened, the pains begin to lessen, and by degrees too at every paroxysm, till at length the patient is worn out rather with sickness than pain. This alleviation of pain however, the patient, who has been long afflicted, must buy at the expence of colick pains, spontaneous lassitude, and a propensity to looseness: as long as they are present, the pain becomes more tolerable; but soon as this last grows to any degree intense, then all the above-mentioned symptoms vanish immediately: whence Sydenham concluded ⁿ, that *hoc in morbo dolor amarissimum sit naturæ pharmacum, qui quo vehementior est, eo citius præterlabitur paroxysmus, atque insuper & longior erit intermissio, & vice versa*, “ the very bitterest pain was only nature’s
 “ remedy; which, the more violent it was, the sooner
 “ a paroxysm would terminate, and the intermissions
 “ be of longer continuance, and so *visa versa*.” Coste^o too, agreeable to this, remarks that the longer the intermissions continue, the longer and smarter will the next approaching paroxysms be found.

There are two ways by which a fit of the gout terminates: for either the morbid matter collected about the joints transpires through the cutaneous vessels; or it is converted into what is called a gouty concretion, or chalk-stone, which generates nodous swellings

^m Sydenham tractat. de podagr. pag. 553, 554.

ⁿ Ibidem.

^o Traité pratique sur la goute, pag. 61.

swellings in the joints, spoiling the shape and motion of the parts. These two ways of termination deserve each to be considered separately.

We took notice before, that in the beginning of the gouty pain there is no apparent change of colour in the skin; but that it is some time after that the part begins to look red and swell; at which time the pain abates considerably, and a moisture begins to appear upon the skin, the vessels being now rendered pervious, that were before dried up and constricted. Hence arises a new similitude between this distemper and catarrhs, properly so called; for how oft do we see a severe tooth-ach follow upon any one's exposing, when warm, the side of the head to a stream of cold air entering by the chink of a window! This violent pain, after lasting several hours, abates immediately when the cheek begins to swell; and the swelling goes off in a few days without leaving any bad symptom behind, and without suppuration; which last is commonly the consequence in tooth-achs occasioned by a carious tooth.

So long as the gout rages with pain, the skin of the part affected is dry, and has not the least appearance of being swelled; but when the morbid matter begins to digest, and is prepared to pass through the vessels, now relaxed and rendered more permeable, the patient feels at this time an itching, and, the cutaneous vessels being still more and more dilated, it goes off in the form of sweat. At the same time the *epidermis*, that was dried up when these vessels could transmit little or nothing, drops off in scales^p. Sydenham, after observing the like effects in his own case, as well as in that of many others, held it as a fixed principle, that *in podagra nihilominus quasi naturæ prærogativa est materiam peccantem suo modo exterminare, & in articulos deponere, per insensilem transpirationem diffundam.*

^p Medical Essays, Tom. II. pag. 4243.

dam^a. “ Nature in the gout had a privilege, or
 “ power, to exterminate the peccant matter in a way
 “ peculiar to herself, and to deposit the same at the
 “ joints, in order to be dissipated by means of in-
 “ sensible transpiration.” He takes care, however,
 to caution us against the use of strong sudorificks,
 recommending only the warmth of the bed-clothes,
 and mild diluting liquor. But *Sydenham* does not
 here mean insensible perspiration, strictly so called,
 but sweat; for in another place he says, the skin
 grows wet. That something noxious escapes by this
 sweat, is evident from the very foetid smell it has in
 the feet and hands of gouty patients, even of those
 who are careful in all respects in keeping their bodies
 clean; nay, this sweat will mark polished silver with a
 yellow or blackish colour, in the same way as the steam
 of burning sulphur, as appears from the testimony of
 a physician^r who had experienced the calamities of this
 distemper in every shape: and somewhere else he re-
 marks^s, that the pain abates, and the paroxysm is en-
 tirely over, when the part affected begins to throw
 out such a rank stinking liquid. Hence, from an
 accurate consideration of every peculiarity of this
 disease, he concludes^t, that the gouty *virus* has the
 same septick powers as the venereal, and may, in a
 similar way too, be transmitted to a person’s off-
 spring.

However, sulphur is not the only substance that
 blackens silver, since fumes of coal, and bituminous
 turf, have the same effect. Fishes macerated in lime
 water tarnish silver dishes: and even the soft white
 of an egg tinges silver with the same dirty colour;
 and many other substances, perhaps, will have the
 like effect.

Hoffman^u has mentioned what is very remarkable
 Vol. XIII. G in

^a De podagra, pag. 559.

^r Coſte raiſſé pratique ſur la goutte, pag. 23.

^s Ibidem, pag. 60. ^t Ibidem, pag. 33.

^u Medic. rat. ſyſtem. Tom. IV. part 2. ſect. 2. cap. 2. p. 507.

in the case of a gentleman much subject to this distemper, *quod paroxysmum imminens præsentire soleret maxime ex colore annuli, quem digito gerebat, ex mercurio mediante venere & tutia confecti; qui aliquot dies ante paroxysmum, & per totum morbi cursum, livorem atque nigredinem contraherebat, sponte tandem desinentem, pristino redeunte colore, sub declinationis tempus*: “ that
 “ from the colour of a metal ring he wore upon his
 “ finger, composed of mercury, copper and tutty,
 “ he could always perceive when a paroxysm was
 “ near; for it contracted, some days before the fit
 “ came, a blackish, dirty colour, that lasted through
 “ the whole course of the disease, and went off gradually of itself, the former colour returning about
 “ the time of the declension of the fit.”

From what has been said then, it appears very plain, that the matter which produces the gout, for example, in the feet, is pre-existent in the body; that it may for a considerable space lie quiet, till being awakened by time, and other accidents, it is rendered so active as to disturb all the functions of the body; that being deposited at the joints, it may there excite the most excruciating torments, and, by assimilating the fluids and solids to its own nature, thus constitute what physicians call the morbid matter; which matter, if it happens to be entirely thrown off by the cutaneous vessels, in the form of sweat, re-establishes the patient soon in a state of perfect health. Moreover, we see that what is thrown off in the form of sweat, must possess very morbid qualities from the relief that follows, as well as from the stinking *fætor*, and the power it has of tarnishing metals. The observation too of the celebrated *Hoffman* proves, that the *virus* assimilates to itself the humours of our body, even before it is deposited at the usual places, seeing the patient, by the colour of the ring, could foretel a paroxysm before it came on. If therefore

the whole of this morbid matter could be expelled out of the body, then there would be no more a return of the paroxysm; but when this is not to be done, our only remaining hopes are, that it may be deposited at the usual places, and there be rendered fit to pass off in the form of sweat, especially from the parts affected. At the time this change is working, there is a very violent pain that *Sydenham* calls nature's bitter remedy, which she employs in subduing this morbid matter; whence he expected, that the more intense the pain was, the shorter would be the continuance of the paroxysm: and, on the other hand, when old age, or a long continuance of the distemper, has much impaired the strength of the patient, the pain indeed becomes milder; but, in lieu thereof, he suffers a troublesome sickness, and remains a longer time under the paroxysms, till at length he is hardly ever free from the distemper.

How many and how great are the mischiefs to be apprehended, when this gouty matter is any way hindered from being deposited at the usual places, shall be afterwards considered, at § 1273. But when, by the salutary effort of nature, it is properly deposited at the joints, it has yet a farther change to undergo before it can be entirely dissipated. The attendant feverishness, rest, and the warmth of the bed, are of particular efficacy in subduing this morbid matter; and notwithstanding moderate exercise hath always been recommended in this distemper, even by *Celsus* himself^w, though he gives this caution, *nisi cum dolor increvit, sub quo quies optima*; “unless the pain increases, for, in that case, rest is better;” yet nobody, I believe, will persuade a person in the gout, racked with violent pain, to increase his torment by moving the part affected: and, indeed, *Sydenham* remarks^x, *Et quidem bene nobiscum agitur, quod, quoties*

G 2

ita

^w Lib. I. cap. 9. pag. 39.

^x De podagra, pag 597.

ita vehemens est, ut æger motum tolerare non valeat, neque eo admodum opus non habeat; ipso dolore quod amarissimum naturæ est remedium, ægro de vita prospiciente;
 “ and truly we are kindly dealt with, even when the
 “ pain is at the utmost pitch of violence, so as that
 “ the sick cannot endure the least motion; nor is it
 “ very necessary; the pain itself, which is nature’s
 “ bitterest remedy, being ever watchful about the
 “ life and safety of the patient.” But in the cases
 where the distemper is become inveterate, and the
 patients are more afflicted with sickness than violent
 pain; such he admonishes to take exercise in what-
 ever way they can, as in walking, riding, or going
 in a carriage; but he holds it particularly hazardous,
si jam animi deliquia, ventris tormina, diarrhæam, atque
his similia symptomata propendeant, “ if there should
 “ be a tendency to fainting, gripes in the belly, di-
 “ arrhæa, or any symptoms of the like nature.”

He therefore recommends motion and exercise
 more particularly in a fine, pure, country air, not
 only during the intervals between the fits, but like-
 wise whilst there is yet some little remains of pain
 about the parts: *Quamlibet enim in paroxysmi initio*
ægro impossibile videatur, ut lationem in currum, multo
minus ejus motum, ferre queat; attamen si tentaverit non
ita diu post, sentiat se minus a tali motu dolere, quam
cum se in cathedra domi contineret: “ For however im-
 “ possible it may appear to a patient, in the beginning
 “ of a fit, that he can ever bear even to be lifted
 “ into a carriage, far less to endure its motion; yet
 “ on making tryal, he will in a little after find much
 “ less pain from such a motion, than if he had kept
 “ himself at home in his chair.” But besides, this
 advantage he hoped would arise from it, namely, that
 the patient, fatigued with the motion, would have
 a better chance of sleeping: yet, what he principally
 looked for was, that the motion would promote the
 deposition

position of the morbid matter, and prevent the remains from generating gouty tumours in the joints or parts adjacent: and hence, even before the paroxysm was entirely over, he ordered the patients to get into a chariot; *cum opes quæ luxuriæ unde pullulavit morbus, irritamenta erant, facultates currus habendi subministrant*²; “seeing the same wealth, that supplied
“ that luxury from whence the distemper sprang,
“ gave them also the means of supporting easily the
“ expences of a carriage.”

What made him the more confident of so great a power and efficacy in motion, was because he had experienced in himself, *quod exercitatio longa & quotidiana, non tantum non officit generationi topthorum, sed etiam topthos veteres & inveteratos solvit, modo non tantum eo usque invaluerint, ut cutim extimam in suam substantiam mutaverint*, “ that exercise, continued for
“ some time every day, not only hinders the gene-
“ ration of *topthi*, but serves likewise to dissipate these
“ tumours when generated, and of some standing,
“ or even indurated, provided only they do not rise
“ to such a degree as to convert the outer surface of
“ the skin into their own substance”.

*Lucian*³, who indeed gives us a very accurate history of this distemper, brings in a chorus of gouty people, all leaning on staves, and crawling along to pay their devotions to the goddess *Podagra*, who is herself described as walking with a crutch^b: and thus a newly-initiated votary says, that his mind and wishes were indeed ready to guide and forward his steps out of doors; but that his lazy inactive body refused obedience to his earnest desire, however, he appeals to his own soul.

*Probe, qui noverat,
Podager pauper, ambulare si velit,
Nec possit, esse eum ponendum in mortuis.*

G 3

Which

² De podagra, pag. 591.³ Tom. III. pag. 648 & 649. ^b Ibid. 652.

“ Which knew full well, that the poor gouty wight,
 “ That really cannot, but yet fain would walk,
 “ Does but make up the number of the dead.”

The gouty people, nevertheless, continue on their walking, though with much uneasiness, in hopes of obtaining,

—— *Dolori finem celerem,*
His temporibus vernis, ——

“ A speedy end to all their pain,
 “ While yet the vernal suns remain.”

And now the goddess *Podagra*, in regard that her trusty messenger had performed a journey of no less than two furlongs in the space of five days, grants him, as a reward for his diligence, that for three whole years from thence, he should feel his pains very easy^c. *Celsus*^d too very earnestly insists on exercise: *Si cui dolere nervi solent, quod in podagra chiragra esse consuevit, huic quantum fieri potest, exercendum id est, quod affectum est, objiciendumque labori & frigori:*

“ But it is very necessary, that those who are troubled with nervous pains, such as happen either in
 “ the gout of the feet or hands, should give the
 “ parts affected as much exercise as possible, and expose them freely on all occasions both to fatigue and
 “ cold.”

I have seen myself an instance of a dancing-master, who, twice a year, was sure of having a very severe attack from this distemper, and yet for twenty years and more his joints kept always free from stiffness: for, as he had a numerous family to provide for, he took care, the moment he perceived the least remission of pain, to get out of bed, and walk as much as possibly he could; and by continuing this effort every day, the fit went off much sooner than usual.

Such

^c Tom. III. pag. 657, 659.

^d Lib. I. cap. 9. pag. 39.

Such efforts of courage however we can hardly expect from those who have been bred up in magnificence, and accustomed to all the nice delicacies of a luxurious way of living.

Moreover, what physicians have always been greatly afraid of, is, lest the gouty matter, not being immediately thrown out, should be converted into chalky or stony concretions,

Which tear the vessels and ligaments of the joints, despoiling them of their figure, motion and use.} When this disease happens to be of a very long standing, Sydenham^e observes, that, *tandem concretiones circa articulorum ligamenta tophaceas generari, quæ articulorum cutim, ipsamque cuticulam destruentes, nudos tophos, cretam vel oculos cancrorum æmulantes, acicula cernendos, exhibent conspectui; nonnumquam materia morbum committens, cubitis impacta, tumorem subalbum excitat fere ad ovi magnitudinem, quæ sensim inflammatur cum rubore*: “at length tophaceous swellings are
 “ generated about the ligaments of the joints, which
 “ destroying the skin, and cuticle itself, present to
 “ the open view genuine naked *tophi*, resembling
 “ chalk or crabs-eyes, that may be picked out with
 “ the point of a needle: sometimes the gouty matter,
 “ collected about the elbow, causes a whitish tumour
 “ about the size of an egg to arise, which gradually
 “ inflames and reddens.” For the skin, stretched insensibly by the collected matter, is inflamed, bursts open at last, and voids a substance very much resembling chalk. In a person about forty years old, who had always lived a chaste and regular life, and had bore the severest pains with most incredible patience, I saw all the joints of his body beset with these *tophi* or chalky concretions, though he had been only seven years acquainted with the disease. The instances, however, are very rare, where any one suffers at this terrible rate so early, especially if they keep to

G 4

any

^e De podagra, pag. 550, 551.

any degree of regularity, which this worthy man always did, being of the religious order of Franciscans.

Sydenham^f by no means took this chalky or calcareous matter to be the tartar of the blood transmitted to the joints, but says, *dum magna vis materiæ inconcoctæ podagram facientis in articulos quosdam depluit, & partes vicinas diutius tumidas reddit tandem accidit, ut partim harum virtus assimilativa sufflaminetur, partim a suffocante obstructione quam in eis parit iners hic humor, dicta materia generetur quæ a colore doloreque articuli in hujusmodi substantiam cogitur, atque indies augetur, tum carnem, tum cutim articuli, in propriam naturam vertens*; “when a great deal of this inconcocted matter, “which produces the gout, is poured in like a deluge upon some particular joint, it keeps the adjacent parts distended longer than usual; whence “at last it happens, that part of the assimilating “virtue exhales, and what remains being choaked “up by obstruction, and rendered inactive, thus “generates the said chalky matter, which by “the heat and pain of the joint is wrought up into “a closer consistence, and gaining ground daily, “converts both the skin and fleshy parts of the joint “into a matter like itself.”

From whence it appears, that Sydenham's opinion in short was this, that the gouty matter, being collected in great abundance about the joint, when the finer part was dissipated, hardened into these chalky concretions. The same opinion is espoused by Coste^g; and the celebrated Mead^h seems, in like manner, to think that there is a gradual accumulation of the chalky matter. *Subsidente enim tumore, effusi humoris pars, quæ per cutis meatus exire non potuit (& exigua sane ejus portio hac via exhalatur) in*
venas

^f De podagra, pag. 590.

^g Traité pratique sur la goutte, pag. 23.

^h Monit. & precept. medic. pag. 198, 199.

venas & lymphæ canales absorbetur : dum id quod crassissimum est, membranis adhæret ; & singulis doloris circuitibus cumulatam, interdum in duritiem quasi cretaceam concrescit, sensimque articulos opplet & contundit : “ For
 “ when the swelling subsides, part of the humour,
 “ which could not find a passage by the pores of the
 “ skin, (and a very little portion indeed exhales in
 “ this way) is taken up by the veins and lymphatic
 “ vessels, while the grosser parts stick in the
 “ membranes, and being accumulated by every return
 “ of the paroxysm, concrete sometimes into a
 “ substance like chalk, filling up, and greatly hurting,
 “ the whole articulation.” And yet we have already observed, that a remarkably large quantity of gouty matter in fact does really pass off from the part affected along with that profuse foetid sweat ; besides, the gradual accumulation of the chalky matter does not seem easily to correspond with some particular observations in this disease, to be mentioned afterwards.

The celebrated *Hoffman*¹ took this chalky matter to be a tartareous concretion, and endeavoured to support his opinion principally from these observations ; namely, that persons labouring under the gout were often at the same time troubled with the stone ; and that this chalky matter appeared evidently to be of the same nature with tartareous salt, composed of an acid and a good deal of earth ; and that drinking too much of wines, in which this tartar abounds, contributed more frequently than any thing to produce this distemper, &c. Others, from hearing the sick complain of a live coal, as it were, burning the part affected, thought that the ligaments and bones being burnt up by the violence of the disease, were thus reduced to a chalky substance : some again have thought, that concretions of
 this

¹ Medic. rat. system. Tom. IV. part 2. sect 2. cap. 2. pag. 506, & sequent.

this sort might take their rise from hardened catarrhus *mucus*; and many different conjectures of the like sort have been thrown out by different people.

But the opinions of those who have, with particular accuracy, examined into the nature of this gouty chalk, of all others, best deserve our attention. The celebrated *Hales*^k, upon observing that the *calculus humanus* contained a very considerable quantity of unelastick air, and finding the same thing obtain in tartar, calls the former by the name of an animal tartar, and says he does not doubt but the same takes place in gouty concretions, which he reckons to be of a similar nature. The ingenious Dr. *Whyte*^l, when he was making experiments to prove the great utility of lime-water in diseases of the stone, thought it might be worth while to try its efficacy upon gouty concretions, especially as they were supposed by the greater part of physicians to be very much a-kin to the other, as both (according to what has been asserted by some) yield, when examined chemically, pretty much the same principles. He infused therefore, in some lime-water, a bit of gouty chalk-stone, which, being specifically lighter, swimm'd a-top, but after emitting several bubbles of air fell soon to the bottom, and in a day or two after was found of a soft consistence, like butter. He then infused another bit of the same chalk-stone in pure water, and the same effects followed precisely: whence he concludes, that nothing certain could be drawn from these experiments, to prove that lime-water would have the same power on concretions of this kind, as it had on the *calculus humanus*.

For my own part, I never found a gouty chalk-stone cohere so firmly as the *calculus humanus*: what I have seen were always friable, and went to pieces on the slightest pressure. I have now, whilst I write
this

^k Vegetable Staticks, pag. 192.

^l Medical Essays, Tom. V. part II. pag. 714.

this commentary, made tryal on a chalk-stone which has been twenty years in my possession, and which at present has the same degree of brittleness, as it had when first extracted from the gouty tumour. Nor are we to be surpris'd at finding gouty people afflicted, at the same time, with nephritick and calculous disorders, seeing they for a long time together are fixed down immoveable to their beds: and the like happens in many other cases, where a tedious confinement to the bed, in one certain posture, is unavoidable, as in paralytick disorders, fractures of the thigh, &c. where the stone is often observed to be generated in the same manner. Perhaps another reason, and not an improbable one, may be found, to account better for the production of these gouty chalk-stones.

The celebrated *Haller* ^m, with an industry hardly to be equalled, applied himself to examine, in what manner the bones were first formed in young animals at the time of incubation. He observes then, that the whole body of the animal about to form, and consequently the bones, may be resolved into a soft jelly; which jelly is first turned into a cartilage, and this last afterwards converted into a bone. The conversion of the jelly into a cartilage is quick and easy, as requiring only a very little more solidity; but the means by which a cartilage is converted into bone, are not so obvious, and require a longer process. A cartilage, when not very thick, is pellucid. The first signs of its assuming a bony nature are opacity and a yellowish colour; and at the same time, a fibrous texture begins to appear: this change may be perceived on the eighth day of incubation: on the tenth, the first rudiments of the blood are to be seen, and to be distinguished by a yellowish hue: on the eleventh day the redness is to be observed; and, on the same day, that part of the cartilage, which began to be opaque and yellow on the eighth, looks now of a reddish

^m Sur la formation des os, pag. 252.

reddish colour; for the arteries, being more dilated, are now able to transmit some red molecules of blood; and, at the very same time, there is a bony hardness may be perceived in the same part of the cartilage: the like obtains in callus's of fractures, before they acquire the last degree of hardness. The arteries, now enlarging more and more, are pressing upon the parts adjacent, and, being dilated by the *impetus* of the blood within, are rendered fitter to transmit some grosser particles, and those especially of the terrestrial kind; the interposition of which particles, giving a greater degree of solidity and brittleness to the cartilage, lessens its flexibility, and thus, from being a flexible elastick substance, becomes a hard and brittle bone. If this earth be mixed with the acid of vinegar, a neutral salt will be produced, glittering with shining crystals, which has the power of mollifying bones, and resolving them back into a cartilaginous state.

These earthy particles dissolve entirely in the acid; for my worthy friend and colleague, Dr. *Storck*, at a conversation with him on this subject, diluted some *aqua fortis* with a little common water, in which he macerated a few chicken bones, which were all soon reduced to a flexible and elastick state: then, afterwards, upon pouring in some oil of *tartar per deliquium*, there fell to the bottom of the vessel a powder, which, when well washed, had every quality of genuine earth. After this, in a quantity of diluted *aqua fortis*, he macerated an entire skull, which had lain many years in a burying-place; and the whole was rendered flexible and elastick.

It seems to be this terrestrial part solely, to which madder root imparts a strong red colourⁿ; and therefore madder has no effect upon cartilages until they ossify, not even upon the callus's of fractures, until they have acquired the hardness of bones.

A cartilage then differs from a bone in not having this

ⁿ Ibid. pag. 9, et seq.

this terrestrial part; for, when this part is taken away from a bone by maceration in acids, the cartilage comes forth entire, as if it had only hid itself within the solid bone°. Again, when the earthy part of a bone is tinged by feeding the animal with madder root, let the bone itself be macerated in acid, it quickly loses all the colour, and there remains a cartilage without the least tinge whatsoever^p. *Herissant*^q has observed that gouty concretions entirely dissolve in nitrous acid, without leaving a vestige of either cartilage or membrane behind: another instance of the same kind he saw in an old hen, which had concretions collected about the joints of her feet; for after feeding her with madder root they were all dyed red, and dissolved entirely in diluted acids^r. Hence we have an evident proof, that as only the earthy parts of bones are tinged with madder root, and as the gouty concretions consist entirely of this earthy part, of consequence they must have a much deeper tinge than the bones themselves.

If then it be considered how continually the solid parts of our bodies are impaired by the ordinary actions of a wholesome state of life, we shall see how necessary it is for the preservation of health, that there be a continual repair of what has been thus worn away. From several experiments made by the celebrated *Du Hamel*^s, and confirmed by others, it appears, that, when madder root is mixed up with the food of any animal, the bones are tinged with a red colour. If the animal again be afterwards fed as usual, without the mixture of madder root, then that part of the bone, which grew during this nutriment, shall not in the least degree be tinged; but let the madder root again be added to the food, it soon acquires the same colour as the rest had done before. Thus it was that

° Fourgeroux mem. sur les os, pag. 5.

^p Ibid. pag. 23.

^q Ibid. pag. 22. ^r Ibid. pag. 96, 97.

^s Academ. de

science. l'an. 1742. Mem. 497.

that *Du Hamel*, on dividing transversely the *femur* of a pig he had fed in this way, observed the bone variegated with red and white circles, and what particularly ought to be remarked, by only a month's feeding of the animal with madder root, a very considerable part of the thickness of the bones was coloured red. Now, as it was shewn before, that only the earthy parts of the bones could be tinged with the madder root, it is plain, that, in a month's time, a considerable quantity of earth must have been fresh applied to the bones, partly to repair that which had been worn away, and partly to serve for their growth and enlargement; the experiments being all tried on young animals. Moreover, from the same experiments it appeared, that, in six weeks time, upon letting the animal feed on its ordinary aliment without the madder, the red colour went entirely off; which certainly must be owing to fresh uncoloured matter supplying the place of that which had been formerly tinged, but now thrown out of the body.

Hence it seems evident, that this earthy substance is separated from the bones, and that the earthy particles, thus separated, go out of the body through those passages by which every thing superfluous is usually thrown out. At the same time the vessels, we see, bring not only a sufficient quantity of this earthy matter to supply the continual waste, but likewise what is necessary to serve for their gradual increase in younger animals.

If therefore, by repeated attacks of the gout, the vessels are so changed, or the fabrick of the bones injured in such a manner, as that the matter, which is destined for repairing the waste made in these parts, cannot rightly arrive at the proper places, it will not be at all surprising to find it deposited about the parts adjoining, and so rising up into gouty tumours; for it appears from what has been already said, that this
chalky

* Haller sur la formation des os, pag. 17.

chalky matter of the gout is possessed of the same properties, as are found in that earthy part of bones, and which, added to a cartilage, is the cause of its ossification.

When this matter therefore, which is necessary to repair the lost substance of bones, happens to be collected in the cavity of a joint, an almost incurable *anchylosis* is the consequence. Should it fix upon the ligaments, it takes away their flexibility, and thus deprives all the parts of their motion and use; besides deforming the shape of the joint in a very extraordinary way: *Quandoque enim unum pluresve digitos distortuens, fasciculo radicum pastinacæ similes illos reddit, motu paulatim privans*⁴: “for sometimes, distorting one or more fingers, it makes them resemble a bundle of parsnip roots, depriving them insensibly of all motion.” Hence, when the gouty chorus chant the praises of the goddess *Podagra*, they give her the epithet of *περιχονδολο πωροφιλα*, *callum articulis inducere amans*, “as delighting to strike the joints with stiffness.” The emperor *Galba* was so badly afflicted, *manibus pedibus articulari morbo distortissimus, ut neque calceum perpeti, neque libellos evolvere, aut tenere omnino valeret*⁵, “his hands and feet being so very much distorted, that he neither could suffer a shoe, nor was in the least able to open, or even hold, a little book.” Whence it is no wonder that, being in so miserable a condition with this distemper, he should cry out, *Cum esse oportet, manus non habeo; oportet progredi, non sunt mihi pedes; oportet dolere, tum & pedes mihi sunt & manus*. “When I stand in need of eating, I have no hands; when walking is necessary, I have no feet; but when I am to be tormented, then feet and hands are all ready.” For always, when years and the disease increase together, *æger ideo tantum vivit ut sit miser, non ut vitæ dulcedine minimum fruatur*,

⁴ Sydenham tractat. de podag. pag. 550.

⁵ Sueton. in vita. Lib. VII. pag. 584.

*fruat**, “ the afflicted patient lives only to be miserable, without enjoying even the smallest pleasure of life.”

This earthy matter, which seems to constitute the gouty chalk-stone, how easily soever it may acquire a solid form, is yet originally conveyed to the bones along with the liquids by means of the vessels: nay, it issues out sometimes in the form of a liquid from gouty tumours, not as yet indurated, which I myself remember sometimes to have seen; and which likewise is farther confirmed by that surprising case, already mentioned at § 1255. of the person, who, in a fit of this distemper, after vomiting up a quantity of sharp acid, found an immediate relief from the pain. In this very person there appeared a pretty hard tumour about the instep of the right foot, whilst there issued out from the middle of the great toe a quantity of viscid matter, like whites of eggs, mingled with a few very little bits of chalk-stone: but this evacuation happened four or five days before the regular paroxysm came on, which, after continuing three or four weeks, terminated at last without the acid vomit, copious sediment in the urine, or the very foetid sweat with which the former paroxysms used to end; but then, three fingers of one hand, and two of the other, were all loaded with chalk-stones: these fingers, when exposed to the cold, were very sharply pained, and, on the contrary, when kept warm, were much easier. It was not long after this, when a great quantity of this chalky matter, for three months together, issued out of the great toe of the left foot, and particularly from that place which commonly sustains the weight of the whole body in walking: the place from whence this matter issued still continued a little open; and in the mean time the patient was seized with a smart fever, which terminated in three days by sweat and a

copious

* Syd. tract. de podagra. pag. 552.

copious sediment in the urine: to this succeeded a fit of the gout, and a very sharp pain laid hold on both feet, which lasted near a week: then arose a very unusual itching about the aforesaid open place, out of which there was squeezed by gentle pressure about an ounce or two of liquid chalky matter; and next day, upon enlarging the aperture, half a pint of bloody *serum* came out, mingled with pieces of chalk-stone. The wound soon after healed up, and the patient recovered very good health.

Such a quantity of matter therefore, so suddenly collected in this part, does not seem to have præ-existed there, but rather to have been derived hither, from some other place of the body, by a true *metastasis*, the pain of the part inviting the morbid matter towards this particular place; as hath been shewn before in the history of fevers, when we discoursed concerning a crisis and *metastasis*, or transposition of matter.

This earthy matter then flows along with the healthy humours, restoring to the bones what is perpetually worn away, and also conveying to them what is necessary for their gradual increase in younger animals. But when this same matter is changed by disease, or cannot properly be applied to the bones, then it is either deposited upon other places, or wholly thrown out of the body. Instances have been given from *Platerus*, in a preceding paragraph, of tophous swellings being found about the ear, and upon the *palpebræ*. Such concretions have also been found in the lungs², kidneys, and liver of gouty people²: and *Pecklin*² saw several young men, the most robust, and of the best habit of body, at last so miserably afflicted, *ut jam a trigesimo anno topbos sudarent*, “as at the age of thirty to sweat a kind of topacheous matter.” And one or two of these died of this distemper before the fortieth year of their age. *In*

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illis

¹ Medical Observat. & Enquiries, pag. 47, & seq.

² Liger traité de la goutte, pag. 344. ² Ibid. pag. 346, 347.

³ Observat. physico-med. Lib. 11. observat. 25. pag. 272.

illis autem sic omnia in calcem coierunt, ut quicquid red-deretur sputi, sudorumque, præ gypsi copia candesceret :
 “ and such was the general tendency of their humours
 “ to a chalky nature, that every evacuation, either by
 “ sweat or spittle, received a whitish cast from the abun-
 “ dance of this sort of matter.” A certain person, about fifty years of age or more, and otherwise healthy, had suffered at times under some slight returns of the gout; so very sensible of cold, that he could not bear to be without a fire in his bed-chamber even in the very middle of summer : this gentleman all at once began to make urine white as milk, which, when allowed to settle for an hour, became pellucid, and let fall a copious white sediment to the bottom of the vessel, which at first appeared like soft clay, but in an hour or two after, hardened into a white chalk or plaister-lime : he continued to void such urine, without alteration, for the space of nine months ; inasmuch, that during the foresaid time he reckoned more than sixty pounds weight of this chalky substance had been voided^c ; and what is of all the most extraordinary, upon changing his place of abode, he made no more of this chalky urine ; neither did he find any advantage or detriment as to his health from this remarkable change. Something like this we find in *Baglivi*, where he treats of the stone and gout^d. *Nuper arthriticus quidam Romæ excrevit urinam crassam, copiosam, quæ paulo post coagulata fuit in gelatinæ consistentiam, & ita liber evasit ab arthritide :*
 “ lately, at Rome, a person labouring under an ar-
 “ thritic disorder passed a large quantity of thick
 “ urine, which, after standing a little while, was
 “ coagulated into the consistence of a jelly, and by
 “ this means was cured of his distemper.” In the observation foregoing he remarks, that the sediment was of such a consistence as to be cut like soap with

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^c Academ. de sciences, Paris, 1747. Hist. pag. 56. in 4to.

^d Opera omnia prax. med. Lib. I. pag. 117.

a knife ; but we also know, from other observations, that gouty tophous swellings, before they acquire their usual hardness, sometimes gather about the joints in a liquid form. *Pechlinus* ^e mentions a boy of fourteen years of age, subject to this disorder from his earliest infancy ; the joint of whose elbow he saw tumified in such a manner, *sic ut laxatis ex tempore tunicis in sacculum propenderet, quod videbatur glutinis alicujus, aut adiposæ materiæ promum-condum ; verum apertus tumor liquorem prodidit salsum, statimque ad auras in album callum concrefcentem*, “ that the coats
 “ of the tumour, in time, came to be so distended
 “ as to hang down like a little bag stuffed out with
 “ fat or glarey matter ; but, on opening the tumour,
 “ there came out a saltish liquid, which, when exposed
 “ to the air, immediately hardened into a white chalk.”

From what has been said then I believe we may form a pretty clear idea of the nature of this gouty calx or chalk-stone : for it seems alike in all respects to that earthy matter which converts a cartilage into bone, and which, when taken away by any means from the hardest bones, brings them back to the softness of a cartilage. Many surprising disorders of the bones seem to confirm this opinion. Some we have already mentioned, at § 549. in treating of disorders of the bones, particularly the preternatural, morbid softness of these parts, from the observations of the celebrated *Petit*. *Du Verney* ^f gives a description of an extraordinary case, from the third volume of the *Acta Hassniensia*, of a person who, in the twenty-fourth year of his age, began to complain of a pain about his heel, knees, and upper joints of the thighs, which was judged to be from the gout. In a year after, pains all over his body were so violent, that he was obliged to keep his bed almost perpetually : then the bones began to soften ; nor did the pains leave
 H 2 him

^e Observat. physico-medic. Lib. II. observ. 25. pag. 272.

^f Traité de maladies des os, Tom. I. præf. pag. 138.

him until the whole bones of his body were rendered so flexible as to bend like wax, without the least pain, into any form you pleased. But from the contraction of the muscles, and their having no longer a due resistance from the bones, the length of the body was so much diminished, that the poor afflicted person, who formerly had been of a very proper size, now dwindled away till he became no bigger than a child at three years of age ; yet, motion only excepted, all the other functions remained as well as ever. He lived in this condition to the thirty-second year of his age ; but a month before his death the pains returned, and continued, without intermission, to afflict him till he expired.

It is also observed by *Petit*, (see § 549.) that however soft and flexible the bones may be rendered, the cartilages always retain their natural degree of firmness. There are a good many other cases in the history of physick, which fully shew that all the bones of the body, and sometimes only part, may be entirely rendered soft ; but chiefly a case related by *Gagliardi**, that deserves our particular notice.

A young lady of rank, much subject to rheumatick defluxions, after having suffered the most cruel and continued pains, had all her bones softened in such a manner, that upon examination of the corpse the bones connected to the joints of the superior and inferior extremities appeared to be composed of a kind of callous flesh ; but the other bones in firmness resembled cartilages. Endeavouring to explain the reason of their being reduced to this degree of softness, he says, *Quare cum filamenta ossium, dissoluto memorato osseo, seu gypseo succo, rigida amplius non conserventur, ex eo, quia de sui natura mollia ac flexibilia sunt, hinc est, ut illis ad primævum statum redeuntibus omnis duritici causa cesset, & sic ossa necessario mollia fiunt, & magis, aut minus, prout magis, minusve, dictus succus osseus*
jam

* Anatom. oss. pag. 70. & seq.

jam concretus dissolutus fuerit. “ Wherefore the bony
 “ fibres, when the fore-mentioned bony or plastle
 “ juice is dissolved away, can no longer retain their
 “ firmness, for this reason, because the sole cause of
 “ their hardness being taken away, they return to
 “ their primitive state ; for by nature they are ori-
 “ ginally soft and flexible, and thus must necessarily
 “ become more or less soft, as this fore-said concreted
 “ juice is more or less dissolved away.”

In that very surprising case described by the skilful
 and learned anatomist Mr. *Morand*^a, where we have
 an account of a woman whose bones, before her
 death, were all reduced to softness, it is particularly
 remarkable, that she had felt the pain severest in those
 very parts of the bones where they had lost their due
 degree of firmness most. At that very time too she
 had passed a great deal of turbid, milky urine, which
 deposited a plentiful sediment : this sediment, upon
 examination, had all the qualities of the chalky
 plaster, and with a considerable effervescence dissolved
 in distilled vinegar, or in the mineral acids : whilst she
 had this evacuation of milky urine, her pains grew
 milder, and sometimes she was bedrenched with
 copious sweats, which stained the linen like grease
 mixed up with chalk. However, notwithstanding
 all the bones of this miserable woman were entirely
 softened, the cartilages remained unchanged, and re-
 tained their former whiteness, smoothness and elasti-
 cityⁱ. The bones thus softened could indeed be drawn
 out by a little force to their natural form, but bended
 inwards again of their own accord, when left to their
 freedom. An account of this wonderful disorder, as
 also an exact description of the skeleton preserved
 among the curiosities of the academy, drawn up by
 the celebrated Mr. *Morand* the elder, is to be found
 in the transactions of the royal academy at Paris^k. But

H 3

Morand

^a Histoire de la maladie singuliere, & de l'examen du cadavre d'une
 femme, pag. 13, 17.

ⁱ Ibid. pag. 74.

^k L'an. 1753. Mem. pag. 541—552.

Morand further remarks, that the bones of this skeleton did not retain all that softness they had in the recent corpse, but acquired a greater degree of hardness, especially those about the *cranium*.

Now the same thing was observed in the skull before mentioned, which by maceration in diluted *aqua fortis* had been reduced to a cartilaginous state; for even this last, when allowed to dry, acquired a greater degree of firmness.

However, that this matter, called gouty calx, or chalk-stone, when collected about the joints and their ligaments, can take away the motion of the parts, and produce the most surprising deformities, appears of itself abundantly plain, and is but too well confirmed by the melancholy examples which daily offer to our view.

S E C T. MCCLXII.

FR O M all which it appears, that the proximate cause of this disease is a vitiated temper of the most minute, and, consequently, nervous vessels in the body; and also of the liquid which flows through those nervous parts.

We have already seen, in the history of the epilepsy, and some other diseases, that very surprising and sudden changes may happen in the body, and many astonishing bad symptoms may be produced from hidden causes, which physicians could never trace by the utmost acuteness of the organs of sense, and which they have so often in vain searched after in the dissection of dead bodies: whence they concluded with some reason, that the cause of all these surprising effects must lie hid within the substance of the brain, or the nerves produced from thence. Nor

was it altogether without foundation that they entertained the same opinion concerning a genuine and perfect gout. When this distemper is hereditary, it lies concealed for years, and takes a proper opportunity to manifest itself. Sometimes it passes from a grandfather immediately to a grandson, whose father has never perhaps been afflicted. There is no appearance of it during the intervals between each paroxysm: and many gouty persons, after the fit leaves them, enjoy the soundest health. Notwithstanding, then, the other humours of the body may be healthy enough, yet there may something perhaps lie concealed within the brain and nerves, which, though too subtile to disturb the common animal functions, may however, when occasionally rendered active, produce this distemper. Whence, as we have already observed, *Helmont* thought that the gout did not reside essentially in the part affected, but only was derived there as an apple, or any other fruits, from their respective roots. Now that the root of the gout is implanted somewhere in the nervous system, may be proved by several arguments.

I saw a man who for two years was afflicted in this terrible manner: to wit, as oft as he remained sitting and at rest, he perceived nothing; but the moment he got up to stand with his body erect, he was immediately seized with a giddiness, and fell down. Many things he had tried by the advice of the ablest physicians, but all without success, till at last a sudden fit of the gout, which he never had experienced before, cured him entirely of this troublesome vertigo.

I had the care of another person, who was seized at first with severe pains in his lower belly, delirium, and strong tremor over his whole body: he afterwards became epileptick, and having suffered, in the space of a month, three severe fits of that distemper, a sharp fit of the gout at last seized upon his

great toe ; and from the time he became gouty, he remained entirely free from the epilepsy, and was always sure of having a return of the gout regularly twice a year. Agreeable to this, *Hippocrates* has remarked¹, that the epilepsy is cured by another distemper near a-kin to it, namely, the gout : for he says, *Magni morbi, in vehementia existentis, solutio coxarum dolor*, “ Capital disorders, attended with an
“ extreme degree of violence, are in a critical man-
“ ner cured by the *sciatica*.”

Besides, we have taken notice before, at § 1258. how the gout has all at once been cured by the strong emotions of terror, or the exquisite transports of unexpected joy, the *sensorium commune*, and nerves, being all forcibly agitated by these quick and powerful affections of the mind. *Helmont* remarks, as we have already mentioned, (§ 1257.) that the first presages of an approaching fit are commonly perceived about the *præcordia* : now it is in this very place that the passions of the soul raise the greatest commotion ; and in like manner any gross, filthy humours, lodged about these parts, affect the whole powers of sensation in a most surprising way, as we have shewn in several instances at § 701. when we treated of a feverish delirium. *Hippocrates* and *Aretæus* both held the seat of the gout to be in the most minute little veins, and likewise in the nerves, as hath been said in a preceding paragraph : nay, *Aretæus*^m, when discoursing of this disease, says, *Est autem omnium simul nervorum affectus, si auctum malum omnibus ingruat* ; “ But if
“ the disorder increases so as to prevail over all the
“ parts of the body, then it affects the whole nervous
“ system.”

These particulars being considered, we shall have good reason to believe that the proximate cause of the gout consists in a vitiated temper of the most minute,
and

¹ Epidemic. Lib. II. text. V. Charter. Tom. IX. pag. 187.

^m De caus. & sign. morbor. diuturn. Lib. II. cap. 12. pag. 65.

and consequently nervous vessels in the body, or even in a depraved state of that exceeding subtile fluid, which passes through, or waters, these vessels.

The observations of anatomists demonstrate to us, that the larger nerves are made up of bundles of lesser ones, which again may still be subdivided into lesser bundles; nor could the best glasses, or the most dexterous hand, ever arrive at an end of this subdivision; for no one hath as yet seen the most simple *fibrilla* of a nerve, but could only discover a very small bundle of little minute nerves, which can only be subdivided till it eludes the utmost acuteness of sight and dexterity of hand. Now all these minute bundles are wrapped up in their proper sheath or covering, and kept moistened by a very fine liquor, which hinders their growing together: therefore all these proper coverings of the nerves must be vascular; and in the most minute of these there is certainly contained a very fine liquid, which, though it gives place, in degree of fineness, to that fluid which moves through the cavity of the minutest nerve, must however have a very great degree of subtility.

If it be again considered, that this very fine dew, or moisture, which keeps them from growing together, is again resorbed by the veins which here must be exceedingly minute, and by them conveyed into a larger order of veins, till at last it reaches to the sanguineous ones, which, as we have said before, are always turgid before a paroxysm, we may easily conceive how this resorption of the fine lymph may be obstructed, and by stagnating degenerate so as to injure the parts it was ordained to wash and moisten. Whence also we see how we are to distinguish the different kinds of gout, according as the distemper is seated, either in the very smallest vessels, or in those which are of a larger size. Hence, as we have observed before, of all the different kinds of this disease, that is the cruelest where no tumour appears upon the part affected.

S E C T. MCCLXIII.

AND indeed this liquid may be faulty, either from too much acrimony, or from too great a degree of tenacity ; the solid part of the vessels, from being rendered too narrow, or too rigid.

There are many arguments to prove the existence of an acrimony in the humours : for, notwithstanding there may be a very high degree of pain from the vessels being obstructed, and the liquid pressing behind, and so over-stretching the fibres, as hath been explained in the history of inflammation, yet the most painful gout, of all others, is certainly where there appears no swelling or redness upon the part affected, and even where there is hardly any, or at least a very small degree of fever. Now it is particularly at that time when the highest degree of pain arises without any apparent increase of motion, that physicians commonly blame an acrimony. The visciduity of the humours however may be joined to this acrimony. Nay, it sometimes happens, in other diseases, that the acrimony, entangled in this visciduity, is held faster, and not to be discharged without the greatest difficulty, as we have before observed at § 1153. in treating of the scurvy. Sydenhamⁿ, who employed all the powers of his understanding to investigate this distemper, blames acrimony. Coste held the acrimony^o of the humours, joined to a great degree of visciduity, to be the immediate cause of this disease : nay, he acknowledges a septic acrimony, which he says he has seen destroy both bones and cartilages with *caries*^p ; and, as we mentioned before,

ⁿ Traët. de podag. pag. 559. ^o Traité de la goutte, pag. 27.

^p Ibidem, pag. 33.

fore, (§ 1261.) he knew when a paroxysm was at hand, by a continued irritation of the eyes, from an abundance of sharp acrid tears. Besides, the disease, *cæteris paribus*, is commonly severer in people who are in use to live on acrimonious aliments, or who indulge too freely in drinking wine; when, on the contrary, it is observed to be very much alleviated by the constant use of a milk diet.

There is nothing more certain than that the humours of the healthiest body have a tendency to acquire a great degree of acrimony; but this acrimony, spontaneously bred in the humours, is expelled out of the body by the urinary passages, or is exhaled by the pores of the skin; and at the same time, when there happens to be a greater quantity of acrimony produced, whether spontaneously in the body, or from the use of acrid food, a thirst generally follows, which naturally invites the patient to drink large draughts of diluting watry liquors to wash away this acrid matter, and thus expel it when diluted by the ordinary outlets of the body. But *Coste* has observed, (see § 1257.) that the urine, for several days before a paroxysm, comes away pale and muddy, like thick lemonade; and the longer these signs continue before an attack of the distemper, so much severer he apprehended would the approaching paroxysm be found; all which plainly shews there existed an acrimony of the humours not sufficiently thrown off by the urinary passages. And again he observed, on the other hand, that the disease went off sooner whenever the urine deposited a very copious yellow or red sediment. Hence it would seem that the uriniferous little tubes in this case were constricted, and therefore could not easily transmit these acrimonious particles, which ought naturally to have passed this way out of the body.

What has been just now said is farther confirmed by a pretty remarkable observation. It is very well known

known that turpentine taken internally, or even applied externally, gives the urine a grateful flavour, like violets, and very quickly too, as I observed this smell in the urine a few minutes after I had swallowed, for the sake of the experiment, only five grains of this native balsam. But an old lady, very ill of the gout, took every day a dram of Venice turpentine boiled along with *poleum montanum*¹; and this indeed she continued constantly to take, for seventeen months, except when under a paroxysm; for then it was omitted; and yet, nothing of this violet smell could be perceived in her urine². It is true indeed, that turpentine loses no inconsiderable part of the flavour in decoction; but yet, as nothing at all of this passed through the kidneys, we are pretty sure it must have been accumulated and locked up within the body; for an immoderate thirst soon followed, and the turpentine odor immediately found a way to the salivary organs, whence proceeded a plentiful discharge of tough spittle, fully charged with the smell of the turpentine: and though, upon the appearance of this spitting, the turpentine was immediately discontinued; *fons tamen videbatur inexhaustus, omnisque saliva nil nisi sacundissima terebinthinæ progenies erat: nec mirum; adeo longo enim temporis tractu decantati hujus remedii frugem periclitati fueramus, ut tota humorum massa imbui ejus substantia potuerit commodo*; “yet the source one
 “ would have thought inexhaustible, or that the whole
 “ spittle had been produced from the turpentine: and
 “ no wonder; for we had tried the effects of this celebrated remedy for so long a tract of time, that the
 “ whole mass of humours might very well be full
 “ charged with it.” But as this nauseous smell of the turpentine continued a good many days, and so became disagreeable, a remedy was contrived of oil of almonds, sugar, and the yolk of an egg, with a view to divide this turpentine-like viscosity, and render

¹ Hahn histor. podagr. eminent. &c. pag. 10. & seq.

² Ibid. pag. 16.

render it fit to be entirely thrown out of the body ; which answered to our wish ; for in a few days, by taking this medicine, the disagreeable complaint was wholly taken away.

Hence we may perceive how that, which in healthy people easily passes off by the urinary passages, may yet for so many months be retained in a gouty constitution ; and therefore we see, that what by the laws of perfect health ought to be thrown out of the body, does not all go off by these passages. This also perhaps deserves to be considered as one cause why people in the gout are so frequently afflicted with the stone and gravel. For this reason * *Sydenham* earnestly recommends drinking plentifully of thin weak liquors, and exercising the body during the intervals between the fits, to cleanse the kidneys of all that is likely to remain there, or that may any way contribute to produce stony concretions : for he advises gouty patients to be contented with eating a dinner only, and to go supperless to bed : *haustum tamen cerevisiæ t nuioris liberaliorem sibi indulgeant, quandoquidem etiam renum calculo generando proclives fere sunt tales, cujus concretio a liquore ejusmodi hoc tempore hausto multum impeditur ; refrigeratis scilicet ab eo renibus, prolutisque* : “ but he allows them to drink as much small “ beer of any kind as they please, seeing people in “ this condition are almost all liable to have stony “ concretions generate in their kidneys, and therefore plentiful draughts of this sort of liquids may “ prevent such concretions, by rinsing the kidneys “ from all impurities, and by cooling them.”

A too great tenacity of the humours may at the same time be, with very good reason, accused. *Coste* observes, that blood drawn from gouty people in the vigour of life, and otherwise of healthy constitutions, hath an inflammatory denseness, like that which appears

* *Traſtat. de podagra*, pag. 579.

* *Traité ſur la goutte*, pag. 21, 22.

pears in a pleurify, only it abounds more with *serum*, and there is less of the red *crassamentum*. In the more infirm, and those who are much worn out with the long continuance of the distemper, this red part is turned almost quite black; and there is still a larger proportion of the *serum*, which looks greenish, and is of a very saltish taste: this blood contracts a stinking *fætor*, even ere it is quite cold. *Du Habn* ^u found blood drawn from a gouty person at first with all the marks of being good. In a year after, the same person's blood appeared thick, and covered over with a catarrhus *mucus*: three months after this it seemed to be quite florid; and in six months after became tough and viscid, thus varying from better to worse at different times; but about six months before the patient's death, some blood drawn from his foot was uncommonly tough, nasty and black, sending forth a corrupted smell. All these shew that too great a tenacity may really be found to exist in this disease: nay, some have maintained, that the whole of the distemper entirely depends on an increased viscosity of the humours, insomuch as to owe its rise principally to the use of such meats and drinks as abound most with viscosity ^w. But this matter we have already considered in a former paragraph.

Too great a degree of rigidity in the solids hath also been blamed, which occasions a tightness and narrowness of the vessels, as we have shewn at § 33. and consequently an increased resistance to the liquids that must pass through them.

Hence the gout more frequently invades at an advanced time of life (§ 1255.) when the solid parts of the body acquire more and more of this rigidity. Hence it is too, that external cold, as it constricts the vessels, is so hurtful to gouty people, and frequently, as we have observed before, brings on a paroxysm;

^u *Histor. podagr. eminent.* pag. 13, 17, 25, 26.

^w *Liger traité de la goutte*, pag. 63.

paroxysm; whence people who have been long afflicted, and are miserable through the whole year almost, yet have always a tolerable share of health during the summer months. A diminution of the ordinary perspiration, and particularly a dryness of the skin between the toes, where in a sound state there used to be a plentiful discharge of stinking sweat, we have already said, were always reckoned among the certain signs of an approaching paroxysm: but when, upon a relaxation of these constricted vessels, the humours begin again to flow freely, the skin grows moist, the pains become easier, and the disorder, in the affected parts, hastens towards a crisis, as hath also been formerly observed.

S E C T. MCCLXIV.

WHENCE it shews itself in places the most distant from the brain, as resisting motion the most, because of their solidity, hardness, exercise, and the weight incumbent upon them.

All these are verified in the first stage of the distemper, for then the feet are always first attacked; but in a more advanced period of the disease, when the quantity of morbid matter increases beyond what can be taken in at the joints of the foot, then it is that other places are also attacked, and the distemper lays hold upon the hands, knees, and other parts, and, as we before observed, may, in the most surprising manner, be dispersed through the whole body. See what hath been said concerning this matter, § 1259.

S E C T. MCCLXV.

NOW the more immediate origin of this depravation is from an indigestion of the bowels, which cannot sufficiently attenuate or assimilate the aliments into a substance fit to supply the nerves with juices proper for them, which require the highest degree of the most elaborate concoction: hence the intimate and invisible connexion with the spirit of life, and the radical matter that composes the generative fluid.

If we consider every circumstance with regard to nutrition, we shall find that, by the necessary actions of life, our liquids are daily consumed, and the solids continually worn away: hence, were not these perpetual losses continually repaired, our bodies must in a short time go to destruction. But this is not all, for the humours, by the natural heat of the body, and their motion through the vessels, are apt to degenerate from a mild, kindly disposition, and to contract a high degree of putrescent acrimony: hence, if these acrid humours, so noxious when allowed to remain in the body, are not continually thrown off, either by the pores of the skin, by urine or stool, and their place supplied by fresh, wholesome, lenient chyle, our bodies must in like manner fall to ruin. This evidently appears in persons who, by fasting strictly, waste away their bodies if they but abstain twenty-four hours from meat and drink; for their strength is so much impaired, that they cannot go through their ordinary fatigue; nay, very often fall into faintings, even though their bodies remain at perfect rest. In these people the breath smells strong, and the urine, now much diminished,

nished, grows acrid, and occasions a strangury; all which inconveniencies are soon removed by taking the ordinary refreshments of proper aliment. This increased acrimony of the humours at first shews itself in the *primæ viæ* and larger vessels; but when the finer fluids are once affected, then follow obstinate watchfulness, epileptick convulsions, fierce and furious fevers, which at last terminate in death *.

The aliments however, that are newly taken down, are by no means of the same nature, as yet, with what has gone off already in waste, but must undergo a very great change by the action of the *viscera* and vessels, in order to put off their own nature, and to acquire a fit disposition to assimilate with the different parts of the body.

Physiology shews how extensive an apparatus is necessary to produce, from fresh aliment, this renovation of what has been worn away. Manducation divides, and intimately mixes the *saliva*, air, and food together: this the stomach receives, retains, and cherishes, blending them with its own particular humours; when, at the same time, this bowel is in a continual gentle motion from the pressure of the diaphragm and muscles of the lower belly: it is kept in a due degree of heat by the liver and spleen, which, being replete with warm blood, lie close to it on the superiour and lateral parts, whilst the *pancreas* do the same from below: the aliments, thus changed in the stomach, pass through the *pylorus* in a more liquid form into the intestines: here they are mixed with both the biles and pancreatick juice, as also with a very fine lymph, poured out by the arteries, from every point almost of the inner surface of the intestinal canal: the thinner part is taken up by the lacteal vessels, till all that is proper be entirely absorbed, and then the rest goes off in *fæces* by stool: the chyle thus absorbed is still farther mixed with a lymph returning from

* H. Boerhaav. institut. med. §. 757.

all the parts of the body, and being diluted in this manner, and now consisting chiefly of animal liquids, it falls in drop by drop with the stream of blood, passing through the axillary vein, and is conveyed to the heart, then, passing through the lungs, is received into the *aorta*, and so is carried along with the arterial blood through all the parts of the body.

Whilst the chyle moves along with the blood in this manner, it puts off a good deal of the original nature of the aliment, but as yet acquires not completely the assimilative qualities; for when separated by the mammary vessels, and collected in the breasts, it still retains a good share of the alimentary qualities. It appears however from the experiments of *Lower*, that about eight hours after the chyle has circulated along with the blood, through the *viscera* and vessels, it is then changed so far from its original nature, as to be fit to assimilate with our humours, and sufficiently elaborated to repair whatever has been worn away.

But if one or more of these conditions requisite to a perfect assimilation be wanting, the ultimate effect will be in some measure different, and a certain degree of depravation of course must follow; especially in the very finest humours, which require the highest degree of elaboration, to enable them to pass, without impediment, through the most minute vessels in the body; and whilst these defects in the ultimate assimilation remain, a quantity of this depraved humour will always be accumulating, which, the longer it stays in the body, the more acrid it becomes, and is removed with the greater difficulty, and thus at length being deposited at the places fit to receive this matter, in its present state of depravation, produces the distemper.

Hence we may see why *Ægineta*^v, in treating of this disorder, says, the humour preternaturally accumulated,

^v Lib. III. cap. 78. pag. 57.

mulated, and a debility of the parts, are the immediate causes of the disease. *Quando enim altrix facultas partium labefactata fuerit* (ἡ ὁρεπτικὴ δύναμις ἀπορῶν) *ob ciborum copiam, ex qua cruditates contingunt, humor abundans in quancunque articulationem quæ antea debilior fuerat, se conseret, & distendens colligantes nervos dolorem faciet.* “ For when the nutritive faculty of the
 “ parts is any ways injured from too great a quantity
 “ of aliment, which generates crudities, the accu-
 “ mulated humour immediately transfers itself to any
 “ joint which is before weakened, and, distending the
 “ nerves that embrace it, occasions great pain.

But Sydenham², considering the nature of the disease with the greatest attention, after finishing the history of the gout, says, *Omnes animi nervos hujusce morbi phænomenis contemplandis acriter intendens, illum Ἀπεψία, seu labefactatæ tam in partibus quam succis corporis universæ concoctioni, ortum debere existimo:* “ Having applied
 “ the whole powers of my understanding in contem-
 “ plating all the different *phænomena* of this distem-
 “ per, I am well persuaded, that it owes its origin to
 “ an *apepsia*, or injured concoction of the parti-
 “ cular parts, as well as the whole mass of humours in
 “ the body.” And this he goes on afterwards to explain at greater length. Indeed all the circumstances hitherto related, concerning the distemper, admirably confirm this same opinion. The gout infests the rich particularly, who live in luxury and splendor; and some of these we see have been cured, when by unfortunate accidents they have been deprived of their riches, and obliged to gain a living, with the sweat of their brows, to themselves and family; for if any thing depraved happens to be in the humours from an imperfect assimilation, labour and bodily exercise will either subdue it, or expel it altogether out of the body. A ploughman devours with eager appetite the coarsest bread and bacon, which would be a grie-

² Tractat. de podagra, pag. 557.

vous load upon the stomach of one who lives a studious and sedentary life: hence it is that we find those who apply too much to study and books, neglecting bodily exercise, so very often afflicted with this distemper: hence is it also, that old people are so often gouty, as their bodies, through years, are less agile, and rendered unfit to go through the necessary fatigues as formerly.

But this will be more amply confirmed when we come to treat of the cure. Physicians generally recommend a milk diet, as a nutritive liquid already prepared in the body of an animal, and which may be more easily subdued by weakly *viscera*. Sydenham recommends a diet of soft, well-boiled, simple food, and advises gouty people to eat only a dinner, and to go supperless to bed. Again, he in a particular manner recommends the exercise of the body, inasmuch as to insist on their walking, even although they should be a little in pain. Now, if we consider these remedies, so very much recommended, we shall find them to be such as are chiefly calculated to restore and excite the languid action of the chylopoietick *viscera*, in order to forward a perfect assimilation; for if any thing faulty remain in the first concoction, it is hardly to be amended in the others: nay, even though the liquids, which flow through the larger vessels, may be in all respects good and wholesome, yet there may be something, not altogether agreeable to nature, remaining in the very fine liquids that are separated from the blood, and move in these exceeding tender vessels, which, being accumulated and rendered still worse from stagnation, may occasion many various and surprising disorders. See § 1262. It was from observing this morbid matter, so deeply fixed in the very finest of our fluids, that *Helmont*^a imagined the gout took up its residence in the vital spirit; and as he places the work-shop or kitchen of the vital spirit in the *præcordia*, and seeing that, before a paroxysm, gouty people

^a In capitulo, asthma & tussis, § 40. pag. 293.

people were always much affected about these parts, he was the more and more confirmed in his opinion; but, that this character, or disposition, resided chiefly in the very finest parts of both solids and fluids, he concluded from the gout being hereditary, and its lying concealed for so many years in the body ere ever it affects the nerves: whence he says^b, *Non est cruori character ille podagræ commistus, at bene moderatori partium solidarum; mutatur nimirum multoties cruor, totaque alimenti suppellex, ante podagræ hereditariæ venturum adventum.* “ This gouty character, or disposition, is not intimately commixed with the red blood, but with that which immediately keeps up the substance of the solid parts; for the blood itself, and all the alimentary apparatus, are many times changed, and renewed, before a hereditary gout makes its appearance.” What indeed surprises most in hereditary diseases is, that something so exceeding subtle should have place in that very small *molecula* which constitutes the rudiments of a human creature, and that after a course of thirty years it should break out into a disease, awakening, as it were, from that quiet silent repose in which it had lain all that time. But we understand very little as yet of what respects generation, though the most ingenious among mankind have applied all their faculties, and have spared no pains, or industry, to unravel the mystery. The Author of all hath given to animals and vegetables a power of multiplying their species; and in performing this, something must be prepared from each individual, that, when separated from each individual, shall resemble it, yet without injuring the fabrick of the original from whence it was produced: this is the offspring continuing to propagate its own nature, by substituting another offspring, and another after that. Such, we know, can pass out of an organised body without prejudice to the same.

^b In capitul. volup. vivent. morb. § 11. pag. 313.

But the incomparable diligence of *Reaumur* ^c has made it very clear, that the vital rudiments of a living animal may remain unchanged for many years, and (buried, as it were, in a long and silent repose) forbear to give the least sign of increase; yet, when occasion serves, is afterwards capable, in all respects, of producing another animal according to its own likeness. In the vegetable kingdom, the rudiments of a future plant, contained in a ripe seed, may be kept in that state almost any length of time. A certain gentleman, who used to raise in his garden every year the finest melons, preserved some seeds in a clean, well-stopped phial, and resolved to keep them ten years by him before he put them in the ground, persuading himself of having finer fruit when they had been kept so long. I saw myself some of the sensitive plants, which had been raised from seeds that were kept four-score years, having lain neglected in a drawer since they had been originally brought from the Indies by the grand-father of the gentleman who put them in the ground; yet they grew with great life and vigour, and their leaves contracted at the smallest touch. The skilful naturalist *Baillou*, who presented the Emperor with an immense treasure of fossils and other natural curiosities which he had collected with the most unwearied pains and greatest industry, in order to have them reduced to better order, and from time to time augmented under the auspices of so high a patronage, found by chance, in a little drawer, a small quantity of beans, some of which were tinged with the most beautiful shining red, others charmed all that saw them with their pretty variegated colours. He shewed them to a gardener, second to none in his profession, who, after examining the seeds, said he believed, by proper management they might be reared up into plants. The good old *Baillou* smiled, and gave him the paper he had found along with the beans,

^c *Memoire pour l'histoire des insectes*, Tom. II, p. 30.

beans, from which it appeared they had been kept above two hundred years; and though they seemed quite entire, yet he could hardly think it possible, that after the space of two ages they should be able to produce a plant of their own species: but the gardener, having with much ado divided one of these beans asunder with a knife, saw the bud entire, the cotyledons all safe and sound, nothing injured or musty: he then frankly told him, that all these reasons availed nothing, for he was certain that by proper management he could raise this bud, which had lain so long asleep, into life, and make it vegetate; accordingly he macerated the beans a few days in pure water, till the outer surfaces were a little softened, then put them into some fresh rich earth, exposed them to a gentle warmth, and in a week or two some came up, and were soon succeeded by others, till at length, growing to their full maturity, they proved to be the kind of bean called *phaseoli*.

But even in the human body many things of this kind occur to our observation, which plainly shew that there are certain latent principles remaining a long time in the body, without receiving any additional increase, till after years they make their appearance all at once. The first rudiments of hairs are planted within the skin that covers the *pubis*, yet they only begin to present at the age of puberty, and then indeed they grow very quickly. I have seen the first rudiments of teeth very plain in the broken jaw of a young abortion, not only of those which come out at first, but also of those which suddenly grow up, to supply the place of what children shed about seven or eight years of age. It is well known, that in both jaws, the last *dentes molares* remain a long time hid in their sockets, and covered by the gums, till the twenty-fifth year, and beyond it; then afterwards make their appearance with no small degree of torment: whence they are called *dentes sapientiae*, or

teeth of wisdom. Such rudiments as I saw in the jaw-bone of the abortion, have I been surpris'd to observe come out in the jaw-bone of a woman above four-score years of age, and who had not one tooth before in her head; and, what was most diverting, the heirs had no little apprehension, lest this wither'd childless old woman should renew her age again, and disappoint them. When, therefore, all that has been just now said, is duly consider'd, it will not appear quite so absurd, that the unhappy seeds of the gout and other distempers should be so intimately conjoin'd to the first rudiments of the embryo, as not to appear by any visible sign for many years, and at length, on some certain period of life, should be awakened into action, and produce a disease alike in all respects to that which originally afflicted the parent: all things, as we have said, relating to generation, are full of mystery: the most accurate inquirers, indeed, have discover'd many surpris'ing and wonderful facts; but how these facts are produced, no body hath as yet clearly explain'd, at least so far as I know. Therefore, Columela ^a says wisely, *Nec generandi quidem data est potestas manibus aut plantis: sed quod hominibus ignotum esse voluit genitor universi, ventre protexit, ut divina præditus ratione rerum æternus opifex, quasi quibusdam secretis corporis in arcano, atque operto, sacra illa spiritus elementa cum terrenis primordiis misceret, atque hanc animantis machinæ speciem effingeret.* “ Nor, indeed, is there a power of generation given to the hands or feet: but the Creator of the universe, in order to conceal this from the knowledge of human kind, has therefore thought proper to hide it within the belly, that the Eternal Worker of all things, endued with divinest skill, might in some secret parts of the body mix these sacred elements of spirit with the terrestrial principles, and thus,

“ as

^a Lib. III. cap. 10. Auctor rei rustic. Tom. I. pag. 337.

“ as it were, in private, and under cover, model
 “ the figure of this living machine.”

S E C T. MCCLXVI.

TH E reason thereof may again be deduced
 from causes more remote, (1255, 1258).

If these, which are brought from the numbers above cited, shall be compared with what has just now been said, it will appear that they are such as disturb or obstruct the digestion, attenuation, or assimilation of the aliments; whence crudities arise: and if such-like causes act for any considerable time, from the natural disposition of the humours, they must be very liable to be much depraved, and on that account may greatly favour the production of the gout.

S E C T. MCCLXVII.

IT supposes therefore, that almost all the functions of the several concoctions are vitiated, to produce this disease, (1265) while yet the liquids in the larger vessels may not share any sensible degree of depravation.

It is plain all the errors committed in the non-naturals do mightily disturb the functions of the *viscera*, and can produce many different disorders. But even the gout may be produced from them, notwithstanding there may be no visible defect in the larger vessels, or grosser liquids; for it has been remarked before, at § 1256, and 1262, that the matter which causes the gouty pain, gives no sign of its existence, until it is deposited at some joint: whence *Helmont**,
 3 although

* In capitulo: a sede animæ ad morbos, § 11. p. 236.

although he places the seat of the vital spirit in the *præcordia*, and lodges his *archæus* about the *cardia*, or upper mouth of the stomach, yet did not believe any thing morbid to reside in the stomach, that could, as it were, furnish *pabulum* for the gout. *Nec est enim character ille podagricus silens, materialiter, aliquo depositus in nido segregatoque stabulo, in plicis aut rugis stomachi exceptus, tanquam tartarus aliquis exoticus adhærens; sed est in ipso vitæ archæo. concreditus character.* “ For
 “ neither is this latent gouty character materially
 “ lodged in any particular nest, or received into any
 “ hidden and concealed plait of the stomach, adher-
 “ ing like any foreign tartareous matter; but it is
 “ conjoined to the very *archæus*, or chief principle of
 “ life itself.”

For gouty people, during the whole interval between each paroxysm, believe themselves to be in very good health; nay, even when they have sometimes gone to bed very well, not in the least suspecting an attack, the cruel pain has waked them in the middle of the night, as hath been already observed: whence, at § 1262, it was concluded, that the more immediate cause of the gout resided in the most subtile and finest of the solid and fluid parts of the body. But we observed before, in the epilepsy and intermittent fever, that the immediate cause of these diseases lay also sometimes in these very minute parts: hence also these diseases often change into, and sometimes destroy, each other. We have observed before, that a troublesome vertigo was wholly removed by a subsequent paroxysm of the gout. An intermittent fever has sometimes put an end to a true epilepsy. I myself had occasion to see a person, who had suffered under some paroxysms of the gout, at last seized with a vernal tertian intermittent; but the great toe of the right foot being seized with a sharp exquisite pain, after a second paroxysm of the fever, it left him, and returned no more. But every one knows, that a

ernal tertian, even though mild, is seldom terminated before the fifth paroxysm, and for the most part only the seventh. It is usual therefore, in such fevers, spontaneously or by the help of art, to evacuate the bilious matter either upwards or by stool, which generally is attended with considerable relief; whence a remedy of this kind was prescribed for him, which he was to have taken in the morning had not a fit of the gout come on the preceding night, which he did not care to disturb, and therefore wisely omitted to take it, and in fourteen days got free of his gouty complaints. He kept his health very well all the remaining part of the summer; nor could I find he had afterwards any bilious evacuations, though I desired both the patient, and those that were about him, to take particular notice.

S E C T. MCCLXVIII.

THE cure therefore is impossible, unless by such medicines as are able to amend all these several degrees of depravation, and thoroughly correct that exceeding subtile morbid matter. Whence the gout hath been hitherto reckoned almost incurable by all, excepting quacks and boasting empiricks.

To alleviate the pain, is not properly to cure the gout, seeing the pain always abates of itself, the fit going off when all the morbid matter is entirely dissipated. But the true cure of the gout is when there are no more returns of the distemper, even although the body is under the power of those causes that are able to excite a paroxysm, concerning which we have already discoursed, at § 1258. for these procatactick or antecedent causes could by no means occasion the disease, unless there was a cause præ-existing

ing in the body, disposing it to be gouty; which cause, then, as soon as you remove, you entirely cure the disease.

It is frequently seen, that by a proper diet the distemper may be rendered very mild: nay, some patients, by living on milk alone, have been kept for several years quite free of a paroxysm; and yet these were not by any means cured, as the prædisponent cause still remained in the body; and though the accidental occasional causes might be hindered from acting by the use of such a regimen, yet the prædisponent cause, not being sufficiently roused up into action for several years, lay quiet and peaceable in the body: for it has been observed of these patients, that whenever they laid aside the milk diet, and returned to their former manner of living, they have had sharper attacks of the gout than ever, notwithstanding their believing themselves to be altogether cured and well. Here then is the chief point in view, to determine upon a radical cure, such as shall entirely destroy that gouty character, so called by *Van Helmont*, and thoroughly correct that exceeding subtile morbifick matter: for, as hath been said, § 1256, that which burns and rages in the part affected, and is very painful, is not the gout, but only the effects of this disorder. That subtile depravity existed before the paroxysm, but occasioned no pain till it was deposited on the joints. Hence *Helmont* * says, that in curing this distemper, *meditandum est, quomodo e spiritu vitæ character seminalis podagræ sit abolendus, quo alias perstite nil actum est electo medico dignum; neque enim ad intima spiritus vitalis scrinia quivis tabellarius accedit, nisi legatus amicus*: “ it is to
“ be considered, how this seminal character of the
“ gout may be eradicated out of the vital spirit, and
“ nothing is performed worthy of a choice and
“ skilful physician, if this still remains; neither is
“ it

* In capitulo, volup. vivent. morb. § 25. pag. 315.

it every clerk can have access to read the deep mysterious characters of this vital spirit, but only some chosen favourite friend of nature."

Such are the virtues, he pretends, which are to be found in the *arcanum corallinum Paracelsi*, as destroying the gout in the first seeds; nor does it seem to be a medicine that purges by stool, *sed nostris constitutionis commiscibile*, "but that which intimately mixes with our constitutional elements." This remedy, as far as we are able to guess from a description so obscure, seems to be a mild preparation of mercury, which does not violently disturb the body in any shape; for *Helmont* did not think violent evacuations necessary in this distemper, as appears from another place, where he says ‡, *Sunt demum morbi, quibus nulla est occasionalis materia; quibus tamen sub periodum sua excutitur materia connexa, velut ignis e silice: non habentes inquam aliam sibi occasionem præter impressiones ideales. Qualis est podagra, caducus, mania, asthma, &c. Quorum scilicet perfecta sanatio consistit in characteris seminalis, & incorporei fermenti, ablatione, non item in materiæ cujusdam sequestratione.* "Now there are certain

diseases that depend on no extrinick occasional matter, but which, at the time of their appearance, quickly as fire from flint, throw out their own intrinsic subtle matter; having, I say, no other occasional matter besides these fine spiritual impressions: such, for instance, are the gout, epilepsy, madness, asthma, &c. the perfect cure of which, to be sure, consists in destroying entirely this seminal character and incorporeal ferment, and not in driving off any of the grosser particles of matter."

The chemists placed great confidence in their *arcana*, which they flattered themselves would penetrate into the most intimate recesses of the body. The antient physicians, again, cried up hellebore, which they took to have the like efficacy in eradicating

‡ In capitulo, ignotus hospes morbus, pag. 405.

ting the most obstinate diseases. Thus *Aretæus* ^b says, *Podagricis veratrum magnum remedium, sed in primis morbi invasionibus; quod si multis jam annis inveteravit, vel a majoribus per successionem descendit, ægrotum ad mortem usque comitatur.* “Hellebore is a
 “powerful remedy in the gout, but more particularly in the first attacks of the disease; for if it is of
 “a very long standing, or has been derived by family succession, it generally accompanies the patient to the end of life.”

Sydenham ⁱ, after recommending a proper diet and exercise, and other things as serviceable to people in the gout, warns them at the same time not to imagine that they are to be altogether secure from the disease, however punctually they may observe these prescriptions: all that he promises is, only a more considerable mitigation of their sufferings, because, says he, *Qui hujusce morbi curationem molitur, id negoti sibi dari debet credere, ut totius corporis habitum immutet, atque illud ad pristinam constitutionem refingat, quantum per ætatem, & reliquas circumstantias, fieri possit: quod in paroxysmorum interstitiis, non in ipsis paroxysmis annitendum est.* “Whoever undertakes to cure this
 “distemper, ought to make it his principal aim, first
 “of all, to change the whole habit, and restore it to
 “its primitive state of soundness, as far as the age
 “of the patient and other circumstances will admit:
 “and this is only to be attempted in the intervals
 “between the paroxysms, and not during the continuance of the paroxysms themselves.” For he frankly confesses ^k, that *therapæia radicalis, & usquequaque perfecta, qua quis etiam a diathesi ad hunc morbum foret liberatus, adhuc in Democriti puteo latet, atque in naturæ sinu reconditur, nescio quando, aut a quibus in lucem extrahenda,* “as to a radical, and in
 “all respects a complete cure, by which one might
 “be

^b De curat. morb. diurn, Lib. I. cap. 12. pag. 133.

ⁱ De podagra, pag. 592, & seq.

^k Ibidem, pag. 606.

“ be secured from ever relapsing into the disorder
 “ again; this, as yet, remains concealed in Demo-
 “ critus’s well, or is laid up so close in nature’s bo-
 “ som, that when it is to be brought to light, or
 “ by whom, we cannot indeed pretend to say.” Nor
 did he yet despair of such a remedy’s being disco-
 vered some time or other, from the example of
 the Peruvian bark, found to be so successful in the
 cure of intermittents, that till then had so frequently
 baffled all the attempts of every physician. From
 hence we see the reason why physicians have hitherto
 considered a radical cure, as a thing at least ex-
 tremely difficult, if not utterly impossible. *Hippocrates*,
 speaking of the gout, says, that it is, *omnium qui*
circa articulos oriuntur affectionum violentissimus, & qui
difficillime solvitur, et permantissimus; licet autem lon-
gus sit & molestus, minime tamen letalis; “ the most
 “ violent of all the disorders that affect the joints,
 “ the hardest to subdue, and the most permanent;
 “ yet, however lasting or troublesome, is by no
 “ means mortally dangerous.”

Hence the gouty chorus in *Lucian* ^m calls the god-
 less *Podagra* the Invincible; and thus she styles her-
 self, ἀνίκητον δεσπότιν πόνων, the Insurmountable Mistress of
 Pains ⁿ, who is to be appeased by no incense, and is
 still more implacable to those who endeavour to please
 her by a number of remedies: on the contrary,

*His, qui nihil sapiunt mihi contrarium,
 Animam gero mitem, et fio placabilis.*

“ But as for those that let me take my swing,
 “ They find me mild and gentle as a lamb.”

Transl. of *Lucian*, Vol. III.

But

ⁱ De affection. cap. 8. Charter. Tom. VII. pag. 629. ^m Tom.
 I. pag. 649. ⁿ Ibid. pag. 653. ^o Ibid. pag. 655.

But *Aurelianus* ^p, recounting the causes why the cure is so difficult, and frequently impossible, among the rest takes notice, that *passio hæc initio parvitat causa negligitur, et contempta convalescit, &c. ob hoc igitur passio perseverare, atque corpora possidere meditatur. Non autem minus etiam longorum lenimentorum causa, quibus recessisse videtur, cum sanos ægrotantes fingendo promittit, adjuvante etiam intemperantia, quacum sæpe concipi passio perspicitur, manere posse non dubitatur:*

“ this disorder is so slight in the beginning, as hardly
 “ to be regarded, and gathers strength more and
 “ more from being thus neglected, &c. Hence it
 “ meditates a longer continuance, and to take at
 “ length entire possession of the body: nor can any
 “ thing contribute more readily to this, than the
 “ long intervals of ease, whereby it seems to with-
 “ draw, and flatters the patient with the vain hopes
 “ of being thoroughly cured; for, without doubt,
 “ the same intemperance renewed, which so often
 “ brings on the attacks of the disorder, may like-
 “ wise greatly contribute to fix it still deeper in the
 “ constitution.”

Quacks and bold empiricks, who venture so often to play tricks upon the human skin, boast of their *arcana*, by which they pretend radically to cure this disorder; and as the gout particularly infests the richer sort of people, they flock from all quarters, therefore, to sell their insignificant stuff, at a very high price, to those who are silly enough to believe in their impudent pretensions. I have known several, who, notwithstanding they have often been deceived by these venders of *arcana*, were yet as ready as ever to lend an ear to the first strolling quack who made the same false pretensions: for mankind are ever prone to believe in what they most desire to be true. And such quacks do often gain credit, by applying their remedies to the part affected, during the height of

a pa-

a paroxysm, which seemingly takes away the pain, whereas in fact, at the declension of each particular fit, the pain generally abates of itself. But Sydenham advises the patients, *“quin potius sub initio paroxysmi ista usurpet, et statim edocebitur, quam ficulneum sit stud auxilium, quam vana spes; cum hæc epithemata nocere quandoque possint, prodesse nunquam,”* “rather to try these arcana in the beginning of a paroxysm, and then they will be convinced of the vanity of their expectations, and the insignificancy of the remedy; for these epithemas never do any service, and very often do a good deal of harm.” Something of the like nature has been remarked, even by Aurelianus¹, before Sydenham’s time. After having enumerated and exploded all the farrago of medicines recommended by different hands, *Fit præterea, et accessiones tempora percurrunt, et sua sponte levigantur, et ita occurrens declinatio, vel paulo proximius lenimen-* tum, eventum curationis afferat: quod si forte vere profuisse putaretur declinationi adhibendum, rursus initio necessario noxium comprobatur; “It also happens,” says he, “that the pains are of themselves alleviated at the termination of every fit; and thus the remedy, if it chance to be applied at or very near the declension of a paroxysm, shall bear away the honour of the cure: but even, should it be allowed to be of real service towards the end of a paroxysm, it must follow, on the contrary, that in the beginning it has all the chance to do harm.”

I heartily wish the same thing might befall all such impostures, as Lucian² very shrewdly feigns to have befallen the two quacks from Syros; for these men, urged by poverty and hunger, had travelled by sea and land over all the world, pretending to be possessed of a secret, left them by inheritance, of an ointment that could allay the most tormenting pains;

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the

¹ De podagra, pag. 601.² In loc. modo citato, pag. 565.³ Tom. III. pag. 660.

the composition of which unguent they had bound themselves by oath never to reveal : but the goddess *Podagra*, in the highest displeasure, commands the unrelenting *pæne*, companions at their Bacchanalian festivals, to fly quickly thither, and to torture these wretches without mercy, till having in vain tried all the power of their ointment, they should be forced to acknowledge that the goddess *Podagra* was neither to be conquered by their *arcanum*, nor that of any one else ; and thus, conscious of her invincible power, cries out,

*Cognoscat unusquisque, me solam Deūm
Non delinire pharmacis, non obsequi.*

——“ That every one may know
“ That I the only goddess am, who dumb
“ *To tears and supplications, sighs and sbrugs,*
“ And quite inexorable then become
“ When once assail’d by ‘pothecaries drugs.

S E C T. MCCLXIX.

THE hereditary sort, and that which generates chalk-stones, are the most difficult of all to cure.

Although the gout is always very difficult to be cured, yet physicians acknowledge, that in the cure of this disease there are different degrees of difficulty, and are pretty unanimously agreed, that the hereditary sort, of all others, is the most difficult. Nay, even *Aretæus*, as we said before, despairs of it : he does the same of that too, which is grown so inveterate as to produce gouty chalk-stones in various parts of the body.

However, notwithstanding all have acknowledged the hereditary gout to be the most difficult to cure, yet by no means does it appear that we ought wholly to give up all hopes of success: for it is clear from what has been observed, that the disease sometimes passes from a grandfather immediately to a grandson, whose father remains all his life free from the distemper; and this will more readily happen, if he lives a life of sobriety, and is daily inured to some bodily fatigue. Seeing therefore afflicting poverty hath been known to eradicate a confirmed gout, why may it not have the power also to keep the hereditary gouty taint always quiet and unactive, and lull it, as it were, asleep through the whole of life? It is true, indeed, the hereditary tendency to the gout doth not seem to be entirely destroyed, as it still descends to the rest of the offspring: but yet a temperate life, and wholesome bodily exercise, may notwithstanding hinder the latent remains from breaking out with violence; and so in time there may be a chance of extirpating the very root of this distemper out of such a family. Thus, by keeping down the spitting of blood, we have seen a hereditary *phthisis* entirely destroyed, as we mentioned when treating of that disorder.

A physician^t, who in the very flower of his age had been attacked with a sharp fit of an hereditary gout, by a strict diet, and some other remedies to be mentioned afterwards, when we come to speak of the cure, kept himself entirely free from the gouty pains for the space of twelve years and more: yet the root of the distemper does not seem to have been here destroyed; for he says, that he had dictated his ingenious treatise when he could not write himself, being laid up under the power of a merciless disease, in the midst of an inclement winter, as well to pass the disagreeable hours, as to be of some real service and benefit to his fellow sufferers. Yet even

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from

^t Coste traité sur la goute. In præfat.

from this it appears, how much a physician may promise himself from a patient tractable and persevering, and who has a mind to purchase a release from the pains of this distemper, at the expence of a frugal and strictly sober life. *Cornaro*, having by diet alone freed himself from the gout and several other diseases, lived to be a hundred years old, and died at last of old age alone, without any antecedent distemper: yet he was forty ere he began to live in this manner; for before that, he had lived a life of pleasure, and been much subject to maladies of various kinds.

But when this disease prevails so far as to generate chalky tumours in different parts of the body, *Sydenham*, as hath been observed before, at § 1260, 1261, thought in that case the whole body was converted into a gouty *fomes*, and therefore considered it as hardly possible to be cured. *Hippocrates**, speaking of this disorder, gives pretty much the same prognosis. *Quicumque, aut senes sunt, aut circa articulos callos (ἐπί τῶν ῥῶματι) habent, aut ærumnose vivunt, bi omnes sani fieri non possunt humana arte quantum ego novi, &c. Qui vero juvenis est, & circa articulos nondum callos habet, & accurate vivit, & laboris amans est, et alium bonam habet ad obediendum pro studiorum ratione, hic sane, medicum intelligentem nactus, sanari poterit.* “Whoever either labours under the weight of old
“ age, or hath callous tumours about the joints, or
“ lives a life of anxiety and care; all these, as far
“ as I know, cannot be remedied by any human
“ art, &c. But a person who is young, and has
“ not as yet callosities in the joints, lives regularly,
“ and is fond of bodily exercise, whose belly is in
“ a good state of regularity, and can be moved at
“ pleasure; such, if he is under the direction of a
“ prudent physician, may readily be cured.”

Yet

* *Cornaro* raadgeving, &c.

* *Prædict. Lib. II. cap. 7. Charter. Tom. VIII. pag. 815.*

Yet some advantage, as we shall see afterwards, may be gained even in a tophaceous kind of the distemper, by an orderly method of living, and proper remedies. Sydenham assures us, that he has found *x*, *quod exercitia longa, et quotidiana, non tantum officit generationi tophorum, sed etiam tophos veteres & induratos solvit, modo non eo usque invaluerint, ut cutim extimam in suam substantiam mutaverint*; “that long-continued exercise, every day, has not only served to hinder the generation of *tophi*, but also to resolve indurated tophaceous tumours of some standing, provided only they were not come to that height as to convert the outer surface of the skin into a substance of the same kind.” But we shall mention some other particulars relative to the possibility of resolving gouty chalk-stones, when we come to speak of the cure.

S E C T. MCCLXX.

FROM the same may be gathered, that bleeding neither reaches the matter, seat, or cause of the disease, yet that the same may occasionally be of service by making a small revulsion, and lessening the violence of the symptoms, § 1257.

It is clear, from what has been said at § 1262, that the proximate cause of this distemper chiefly resides in the very finest fluids, and the most minute vessels in the body: whence we concluded, at § 1268, that a cure was only to be expected from such remedies as could entirely amend these latent defects, or rightly correct the depravity of that very subtile morbidick matter. Now, by venesection, there is only a grosser

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part

x De podagra, pag. 590.

part of our fluids drawn off, to wit, the red blood returning by the veins from the arteries, after the secretion of all the finer liquids; whence it is plain, no part of the morbidick matter can be evacuated by this means, nor the depravity in any shape be corrected, as it has its residence in vessels and fluids exceedingly more minute.

The question we are considering here, is not whether bleeding may not sometimes be of service to gouty people, but whether it deserves to be commended as a proper remedy for the gout. In the case of a patient's having all the signs of a *plethora*, or of his being long accustomed to bleed at certain times of the year, then indeed, as we said before at § 106, venesection is without doubt necessary. When the morbidick matter is not rightly deposited at the usual parts, and the paroxysms are attended with violent fever, delirium, or difficulty of breathing, physicians of sagacity, in that case, prescribe bleeding, in order to alleviate these dangerous symptoms, yet do not rest their hopes of curing the gout entirely on this evacuation. This we find was the opinion of the celebrated *Mead*, who observes, *sanguinis missionem id plerumque efficere, ut morbus locum, quem jam tenet, deserat & relinquat*, "that the general effect of
" bleeding is to make the distemper shift and change
" the place it first possessed." If, therefore, the gouty matter should infest the breast, or fall upon the brain, or any of the *viscera*, venesection may not only be of use to mitigate these troublesome and dangerous symptoms, but also to dislodge the disease from these parts, and cause it to fall upon the joints.

But from this it is at the same time evident, that when the gout is once properly transferred to the joints, we should be very apprehensive of bleeding, lest it change the place of the morbidick matter, and drive it towards the *viscera*, as we shall afterwards consider

sider at § 1273: whence Sydenham² lays down what follows as a good practical rule in the cure of this disease. *Non est itaque adhibenda phlebotomia, vel ad præcavendum paroxysmum qui timetur, vel ad istum qui jam adest, mitigandum; in iis nempe qui ætate sunt pro-
vectiores: quamvis enim qui educitur, sanguis pleuriti-
corum & rheumatismo laborantium, sanguinem ut pluri-
mum referat, attamen venesectio haud minus in hoc morbo
efficere ægro, quam in duobus prædictis prodesse, cernitur.*

“ Bleeding is by no means to be allowed, either by
“ way of preventing a fit that is expected, or of mi-
“ tigating that which is already come; I mean, in
“ people of an advanced age; for though the blood
“ drawn at this time commonly resembles that of
“ pleuritick persons, or who labour under rheuma-
“ tick disorders, yet phlebotomy does full as much
“ harm to patients in this disease, as it does service
“ in the two foregoing.” He has no objection, it is
true, to the taking away some blood at the begin-
ning of a paroxysm in young people, especially if
they have been known to have indulged a little too
freely in drinking. *Sin autem in paroxysmis subse-
quentibus phlebotomia jugiter utatur, podagra quam citis-
sime etiam in juvenibus inveterascet, et intra paucos an-
nos latius imperium, seu potius tyrannidem, propagabit,
quam alias in multis extendere potuisset.* “ But if in
“ the subsequent paroxysms there should be con-
“ stantly a recourse to bleeding, the gout will grow
“ quickly inveterate, even in young persons, and
“ extend its dominion, or rather tyranny, a great
“ way farther than otherwise it could have done
“ after a number of repeated paroxysms.” And
*Ægineta*² indeed, who describes the gout agreeably
to the notion of the four humours, constantly pre-
scribed bleeding in the sanguineous kind, nay, even
in the pituitous and melancholick, in order to draw
the noxious humours away, but gives the following

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cau-

² De podagra, pag. 560. ² Lib. III. cap. 23. pag. 17. vers.

caution. *Statim ergo cum quis morbum experiri primum cœperit, sanguinis missio erit tentanda; nam quos jam fluxio frequenter infestavit, ii plus inde noxæ, quam auxilii sentiunt; præsertim quibus corpus est natura frigidius, aut imbecillius.* “ Bleeding is only to be attempted immediately upon the first attack of the distemper; “ for they who have been frequently attacked, perceive more harm than benefit from this remedy, “ more especially if they are of a frigid and weakly “ constitution.”

It is true indeed, *Galen*^b is clear for having gouty and arthritick people to undergo an evacuation of some sort, about the beginning of the spring season, whether by bleeding or by a purgative, assuring us he hath cured several in this manner. Yet he adds, as a caution, *Cæterum id neminem latere puto, illos in omni deinceps vitæ vitæque ratione agere moderatos,* “ That he would be understood to mean only those “ that were strictly regular in their diet and manner “ of living.” For as to the intemperate, and those who were delivered up to gluttony and drunkenness, nothing, he imagined, could do service. He joins likewise exercise to a wholesome regimen of diet. Now from what has been already said, and from what we have still farther to say, it will appear, that wholesome exercise and regular diet are two things of the greatest consequence in the cure of a gout that is not yet become quite inveterate, such as that seems to be, in which *Galen* prescribed bleeding in the spring.

We have said before, at § 1257, that the antient physicians, upon seeing the veins turgid on the part affected, and the patient complain of a burning heat, and observing the part swelled and painful, tried venesection, not only in places remote, for the sake of revulsion, but likewise opened a vein in the affected limb itself, and took a large quantity of blood away.

^b De curandi ratione per venæ. sect. cap. 7. Charter. Tom. X. pag. 436.

away. *Ætius* informs us of his having freed a person entirely of his complaints by this evacuation, which he says took off the tension that in this case was very strong upon the parts; for thus the force of the matter that pressed upon the affected joint was lessened. Besides, it has been observed before, that immediate ease might be expected whenever the part begins to swell; so that the cessation of pain is not so much owing to the effects of bleeding alone. A physician of *Ghent* ^c, who has made some pretty bold and successful experiments in the cure of several diseases, recommends bleeding in the very joint affected, or near it, and assures us that in one day the pain has been known to vanish, insomuch that the patient has been able to walk upon the limb affected: whence he concludes, it would be of service, in preventing a return of the gout, to open a vein near the ball of the great toe, where the distemper generally fixes ^d. But, without doubt, it is one thing to sooth and alleviate a paroxysm, and another to cure the disease: and from what has been said, we see frequent bleeding must do hurt by weakening the body. *Hoffman* ^e indeed recommends cupping-glasses with scarificators to be applied every three months to the back of the foot, and says, that *insignissimum allevamentum in pluribus, atque etiam in seipso, qui non immunis fuit ab ejusmodi insultibus podagricis, licet obtusioribus et non diu persistentibus, expertus fuerit*, “ he
 “ found they were of the utmost service to many,
 “ and even to himself, who had sometimes been subject to gouty attacks, though not very violent, or of
 “ very long duration.” It is very well known, that this celebrated physician had great confidence in these sorts of preventative bleedings, even for the healthiest people, as believing them of mighty use in keeping them

^c Vander Heyden discours & advis, &c. pag. 72.

^d Ibidem, pag. 83. ^e Medic. rat. & syst. Tom. IV. part. 2. sect. 2. cap. 11. pag. 525.

them clear of all acute distempers: besides, we are to remember we speak here of the radical cure of the gout, which, for reasons already explained, can by no means be expected from blood-letting. When *Ocypus*, in *Lucian*^f, pretending ignorance of the distemper, and willing to deceive the physician, by making him believe he had got a strain in his foot, at the place of exercise, the physician had prepared *acutum, cruoris sitiens, semiteres*, “a sharp, blood-thirsty, half-rounded kind of instrument,” in order to scarify the part affected; when *Ephorus*, running up to him in a hurry, cries out,

Soter, quid occipis? sic te fugiat salus?
Audes, quæsitæ ferro pœnas addere?
Ignarus omnium, malum admovis pedi.
Mendacia tibi dicta, quæque dicta sunt.

“What would you do, rash man, with butchering steel,
 “To add fresh pains to what he now does feel?
 “Blind to the source of all, how dare you go,
 “Plague on your haste! his wretched limbs t’undo?”

Whence it appears that scarification, from the earliest times, hath been generally condemned.

S E C T. MCCLXXI.

N O R are vomits or purgatives of so much efficacy here as is commonly imagined, but generally raise disturbance in the nervous liquid, drain off the finer fluids, and considerably weaken the expulsive faculty.

Several have commended this method in the cure of a gout, and, it is probable, for the following reasons.

^f Tom. III. pag. 670. It

It was formerly observed, at § 1257, that gouty persons felt the first signs of an approaching paroxysm about the stomach and *præcordia*, engendering crudities, stinking belchings, a restricted belly, flatulent disorders, and a languid appetite; and sometimes occasioning, the day before the fit, an extraordinary appetite; nay, sometimes, as we have seen at § 1258, so remarkable as to excite a *fames caninus*; and it was there also observed, that the eating of bacon-fat, and things of that sort, which were hard of digestion, as also all the errors committed in the non-naturals, that occasioned crudities, mightily accelerated the paroxysm. Now all these particulars seemed to indicate, that there remained something noxious in the *primæ viæ*, which ought to be expelled either by vomit or stool.

Whence *Trallianus* * advises purgatives even to be repeated, *si humor qui in articulos fluit, biliosus et acris videatur ex signis*, “if the humour which falls upon the joint appears bilious or acrimonious.” And then he entirely condemns bleeding, yet gives a very prudent caution, *medicamento bile ducente utendum ubi prius acrimoniam humoris aut rosionem humectaveris et contemperaveris*, “not to purge the bile till you have diluted and subdued the sharpness and acrimony.” And, to prevent too great a disturbance, apprehended from a strong purgative remedy, *non semel, verum sæpe, æger purgandus est: ita namque articulos a recrementis et fluxionibus tutos servare poteris, si materiam superantem, non universam, sed per vices, substrahere semper coneris*, “the patient is not to be purged all at once, but at several different times: for thus you will be better able to preserve the joints free from grosser defluxions, if you attempt to draw them off by degrees, and not all at once.” And he repeats the same caution afterwards in the cure of the pituitous and

* Lib. IX. cap. 1. pag. 600.

and cold sort of gout; for then he gave the warmer purges ^h, *aloën colocynthidem, veratrum nigrum, euphorbium, &c.* “aloes, black hellebore, euphorbium, &c.” And he remarks, at the same time, *ipsa non modo preservationis gratia, per intervalla dari debere morbi, sed in ipsius circuitu etiam: nam accessionem valde mitigant, dum materiam ex partibus affectis eliciunt, nec imposterum fluxionem tentare sinunt*, “that these not
 “only ought to be administered by way of preven-
 “tion during the intervals of remission, but also
 “during the accessions themselves; for they miti-
 “gate the paroxysms very much, by drawing off
 “the matter from the part affected, and by that
 “means hindering any afflux to the place for the fu-
 “ture.” Afterwards he advises to repeat the purgatives every second or third month ⁱ. *Demetrius Pepagomenus* ^k not only desires the patient to take a purgative at the declension of the fit, but likewise when it is at the height. *Fernelius*, in a consultation for Albert, the younger marquis of Brandenburg ^l, advises, in the very paroxysm, *ut corpus exquisite purgetur remedio cui non infirmior vis sit, ne forte humores exagitet potius quam evacuet, hincque fluxionem geminet; sed valido satis, et quod a summis extremisque partibus exuperantes humores proliciat*, “the body to be pur-
 “ged by a medicine, not of a weaker kind, lest it
 “rather irritate than evacuate the humours, and by
 “so doing redouble the afflux; but of strength suf-
 “ficient to draw the superabundant humours both
 “from the parts above and below.” And should the pains continue, he thinks such a remedy ought to be a second or third time repeated. *Hoffman* too ^m recommends it to young physicians, as a good practical rule, *mitiores semper dolores evadere, in quocunque etiam loco consistent, si prima regio prius sordibus*

^h Lib. IX. cap. 1. pag. 615. ⁱ Ibidem. pag. 619. ^k Cap. 29. pag. 69. ^l Part. 2. pag. 332. ^m Med. rat. & system. Tom. IV. part. 2. sect. 2. cap. 11. pag. 529.

bus suis, ante usum aliorum medicamentorum, fuerit expurgata, quæ alias migrando in sanguinem, inque partes affectas penetrando, & dolores intensiores reddunt, & graviora symptomata producunt, “ that pains of every kind are always rendered milder, in whatever place they are, if, before any other remedy is exhibited, the first passages be well cleared of their vitious contents, which otherwise may get into the blood, and penetrating into the parts affected, may render the pains more intense, and produce other more terrible symptoms.” Though at the same time he principally recommends the use of glysters and the gentler catharticks, such as manna, rhubarb, cream of tartar, and the like.

If there are certain signs of filthy unwholesome matter collected in the *primæ viæ*, to purge it off by a gentle evacuation does not appear so hurtful; but it does not by any means appear eligible to disturb the body with sharp irritating remedies, in expectation of driving off the gouty matter by stool, more especially if it is deposited at the joints, or near being deposited; for then we have reason to fear, lest the matter be driven inwards; and from thence, indeed, may arise the worst of mischiefs, as we shall afterwards see at § 1273.

It is true indeed, that observations do plainly shew, that throwing up by vomit a sharp and acrid matter, had greatly relieved some persons in the goutⁿ, a memorable instance of which was related at § 1255. Yet this vomiting was spontaneous, and provoked by no medicine; nay, though the patient drank plentifully of warm water, or endeavoured to provoke the vomiting by introducing his finger, he could not succeed, when this acrid matter had once been expelled before, though in the smallest quantity. *Hippocrates* also seems to have placed some hopes of the

* Observ. interess. sur la goutte, &c. page 260, & seq.

the cure of this disease in a dysentery^o; for thus he says: *Sanant quidem hos optime, dysenteriae si successerunt: sed et aliae eliquationes valde profunt quæ ad inferna loca repunt*: “ For dysenteries coming on afterwards, “ cure these exceeding well; and there are other “ profuse evacuations, that tend towards the inferior “ parts of the body, which are also of great service.”

Hence it does not seem altogether improbable, that part of the morbidick matter may go off in this way; but during the time of the fit, the work of nature seems to be more requisite than the attempts of art, and therefore diluent drink, or an emollient gentle glyster, appears to be very well calculated to assist nature; but to provoke these evacuations during the time of a paroxysm by any sharp *stimulus*, is certainly very improper. But as to the use of purgatives during the remission of the paroxysms, we shall afterwards consider it at § 1276.

Sydenham was by no means a friend to the use of purges, yet he acknowledges, that the morbidick matter sometimes goes off by stool: for when he speaks concerning the checking a diarrhœa in gouty persons, ^p he says, *Quod si materia podagrica committens, quæ jam non in artus non fuerit eliminata, diarrhœam produxerit, modo ea paroxysmi singularis crisis non fuerit, &c.* “ But if the morbidick matter, which is not “ as yet expelled by the joints should produce a “ diarrhœa, provided it be not an unusual crisis of “ the paroxysm, &c.” then he advises to raise a sweat, *sistetur ut plurimum diarrhœa, & morbi fomes magna vi in artus detonabit*, “ which for the most “ part stops the diarrhœa, and then the morbidick “ matter will discharge itself with great violence at “ the joint.” By this means, he assures us, he saved his own life, when he had fallen into the like hazard by drinking imprudently a draught of cold water.

^o Prædict. Lib. II. cap. 7. Charter. Tom. VIII. pag. 815.

^p Traët. de podag. pag. 598, 599.

water. Moreover, he advises to try nothing forcible during the paroxysm⁹; for rest alone, and soft mild diet of the tender kind of meats, will be sufficient; but absolutely condemns all purgatives whatever, either at the time of the paroxysms, or during the intervals¹. He owns he brought upon himself a new paroxysm, by endeavouring to purge away the remains of the former: and although, as we mentioned before at § 1258, he confesses afterwards, that purgatives may safely be given to gouty people, when bloody urine or other symptoms of that nature require it, taking care by liquid laudanum to allay the tumult occasioned by the purgative, yet he makes the following remark². *Nihilominus si podagram solam respiciamus, evacuationes quæcunque plurimum nocent, ac proinde nequaquam sunt admittendæ, nisi symptoma dictum earundem usum omnino postulaverat.* “Neverthe-
 “less, with respect to the gout only, all evacuations
 “whatever commonly do harm, and therefore are
 “by no means to be administered, unless the afore-
 “said symptoms require they should be given.” Nor do we find that *Mead*³ expected much good from the use of purgatives in the cure of the gout, but rather thought they made the distemper rage with greater fury at the joints; for when there is a hazard of the disease retiring inward to the vitals, he recommends warmer purgatives, not very strong, to bring back the gouty matter to the place it first occupied.

If then all these things are rightly considered, it will appear very plain, that there is not so much good to be expected from the use of purgatives, or emeticks, as people generally promise themselves, and more especially when administered by ignorant strolling quacks. When they are strong, and given
 during

⁹ Tractat. de podagra, pag. 594.¹ Ibid. pag. 562.² De mict. sanguin. ibid. pag. 704.³ Monit. & præcept.

med. pag. 179.

during the time of the fit, they certainly disturb the body too much, whilst at the same time, by draining off the thinner liquids, and by that means thickening the remaining juices, they do a great deal of injury.

S E C T. MCCLXXII.

SUDORIFICKS, skilfully administered, are of greater benefit.

The seat of the disorder lying in the more minute vessels and finer fluids, § 1262, it appears in all respects agreeable to reason, that the malady should with greater safety and certainty be expelled out of the body by those minute orifices of the smaller vessels which open on the surface of the skin. Anatomists and physiologists discover the incredible minuteness of these cuticular pores, through which *Sanctorinus* hath made it plain, that there flies off every day a very considerable quantity of the finest fluid. If then we consider what a vast number of little nerves are inserted in the skin, and terminate there, as *Eustachius* in his tables has endeavoured to represent, it will appear almost certain that these cannot all be employed on the touch alone, which is not by any means so exquisitely sensible in other parts of the body, as at the extremities of the fingers; but that many of these serve to exhale a subtile fluid through their extreme minute orifices opening into the skin, which would prove noxious if allowed to remain in the body. For it is observed, that the functions of the body are greatly disordered, and that many diseases take their origin from an obstructed perspiration. The first inconvenient symptoms usually arising from this obstruction are a lassitude and heaviness of the whole body, so that the muscular motions, which re-

quire

quire a free brisk action of the nerves, are performed with the greater difficulty. *Sanctorinus* remarks, that bacon particularly, and other fat meats, as also damp, stormy, or cold weather, greatly hinder perspiration. But we have already observed, at § 1259, that the gouty paroxysms are not only accelerated, but are unexpectedly brought on from the same causes. Besides, it was remarked, at § 1261, that the paroxysm goes off by moisture on the part affected, and gentle *diaporesis* expelling the morbid matter through the pores of the skin. Now all these observations argue strenuously for the use of sudorificks.

*Sydenham**, though he had no great reliance on this, yet allows evacuating the peccant matter by sweat to be less hazardous than when attempted by purgatives or emeticks. In the mean time, however, he judiciously observes, that there is need of the greatest caution. *In podagra enim levis ille mador, qui ut plurimum mane sua sponte oritur, post minorum paroxysmorum, e quibus majorem paroxysmum constare docui, singulos, tam dolorem, quam inquietudinem, quibuscum æger tota nocte conflictabatur, mitigat; e contra vero, si quando levis ille mador, et suapte natura fugax, diutius et vehementius proritetur, quam fert proportio materie peccantis, jam ab ultimo paroxysmo concoctæ, morbus inde exacerbatur.* “ For in the gout, that
 “ gentle moisture which commonly breaks out in the
 “ morning spontaneously, after each of the lesser pa-
 “ roxysms, of which (as I said before) the greater
 “ consisted, mitigates the pain as well as the restles-
 “ ness which had afflicted the patient during the
 “ whole night; on the other hand, if this gentle
 “ moisture, by nature apt to fly quickly off, should
 “ continue to be forced out in a larger proportion
 “ than the matter to be concocted by the last parox-
 “ ysm will bear, in that case the disease will be
 “ rendered certainly more violent and untractable.”

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Whence

* Tractat. de podag. pag. 564, & seq.

Whence it appears however, that he condemns only those sweats which are excited by hot stimulating sudorificks; but he did not think there can be any harm in giving diluent and gentle aromack drinks, to forward these first attempts of nature, without increasing too much the motion of the fluids: for during the time of the paroxysm, as we said before, nothing forcible is to be attempted. Sydenham^w acknowledges indeed, *quod per sudores non retrahatur morbi fomes in viscera; sed e contra in corporis habitum propellatur*, “that sudorificks did not draw the “matter inwards upon the *viscera*; but rather dispersed it through the whole constitutional habit.” His only fear was, lest hot sudorificks, given during the time of the paroxysm, should too forcibly drive the morbifick matter into the articulations, and by that means occasion intolerable pains, and also if in too great quantity to cause it to fall upon other parts, and excite the same degrees of pain; whereas, if the disease follows its own natural course, it is not usual to have pain in any other member, unless there has been a greater than ordinary afflux of matter to the place first attacked by the disorder. But should the body superabound with serous, filthy humours, then he was justly afraid of an apoplexy from the use of warm stimulating medicines, as exciting too sudden a motion in these humours, that before either stagnated, or at least moved quietly on, within the vessels. Concerning this caution we have already spoken, when we considered the nature of the slow, pituitous, and cold sort of apoplexy.

But Sydenham, in like manner, condemns the use of sudorificks during the intervals between the fits, being apprehensive lest the gouty matter, not sufficiently ripe, should by them be forcibly driven towards the joints, and thus, contrary to nature, and before the due time, a new paroxysm be excited.

^w Tract. de podagra, pag. 564. & seq.

Not that he was averſe to ſuch ſudorificks as contained a mild aromatick, diluted plentifully with watery liquors, as appears from the common diet-drink he preſcribed to his patients, during the intervals of the paroxyſms, chiefly compoſed of china and ſarſaparilla roots, ſaſſafras wood, aniſeeds, &c. *

S E C T. MCCLXXIII.

NOTHING, however, can be more prejudicial in this diſtemper, than to hinder this ripe gouty matter, (1263.) which cannot with ſafety by any other means be drawn off or corrected, to diſcharge itſelf at the uſual places, (1259, 1260.) moſt ſubject, indeed, to the greateſt pain, but at the ſame time liable to the leaſt danger: for this being retained, if it gets into the brain, occasions apoplexies, palsies, deliriums, debility, drowſineſs, tremors and univerſal convulſion; if into the lungs, aſthma, cough and ſuffocation; if into the *pleura*, or parts about the ribs, an obſtinate convulſive pleuriſy; if into the abdominal *viſcera*, loathing, reſtleſs anxiety, vomiting, belching, gripes, and ſpaſms of the *viſcera*; and thus may occasion an incredible number of diſorders, both ſudden and dangerous, which, unleſs you know their ſource, you will in vain attempt to cure by the moſt forcible medicines, or the beſt-invented method; neither will they yield to any thing but a ſharp ſevere fit of the gout, recently excited. The ſame miſchief happens from the imprudent application of narcoticks, refrigerants, conſtringents or thickeners, or from ad-

L 2

mini-

* Tract. de podagra, pag. 585.

ministering a remedy that impairs the strength, or causes evacuation, revulsion or suffocation. Hence is this often occasioned by bleeding, purging, vomiting, the just-named cataplasms, and all opiates; as also the spontaneous weakness of decrepid old age; or by all the extreme parts being thus obstructed, dried up, and destroyed, that the morbidick matter can no longer pass through them. Hence appears what sort of gout it is, and with what symptoms attended, and why at last mortal to gouty people.

It is evident, from what has been hitherto said, that the morbidick matter, which produces, at its own proper time, a fit of the gout, is, during the intervals, by degrees accumulated in the body, and being, as it were, again ripened, is at length deposited at the usual places, and there excites the most tormenting pains. Whence, as we before observed at § 1267, people are generally apt to think themselves very well, when yet, perhaps, a paroxysm is near at hand, or, if there is any change in regard to their health, are ready to ascribe it to other causes: on this account, it was remarked at § 1256, and 1268, that the pain and burning, perceived in the part, was not the gout, but only the fruit of that distemper. This fruit of the latent distemper, or peccant morbid matter, is thrown out by nature, and deposited on the extreme parts at a distance from the *viscera*, and particularly towards the feet, in which the goddess *Podagra* is usually feigned to be enthroned, as hath been mentioned more at large, § 1261. If any one, therefore, thinks himself possessed of such a remedy as can, without hurt or danger, change this gouty matter, so as to render it similar to the healthy humours, and fit to pass freely through all the vessels of the body, without disturbance or commotion, or even if

he

he knows how to drive off, with safety, this morbid matter, when mature, and just ready to bring on a paroxysm; let him enjoy his good fortune: but we must have evidence of it from real facts, for it will not do to flatter the miserable sufferers with vain promises only. Sydenham, as we mentioned before, with truth observes, that such a remedy, as yet, lies undiscovered; though he does not despair, but that it may, some time or other, be brought to light. In the cure of this disease, it will afterwards appear, how much a proper diet and fit remedies may contribute to lessen the quantity, and correct the acrimony, of the morbid matter that is accumulating during the intervals between the fits, and thus obtain a longer interval, and sometimes even greatly abate the severity of the disorder. But how this morbid matter, fully ripe, and ready, as to quantity, may either be thoroughly corrected, or safely expelled by any other way out of the body, no one, as yet, by certain and credible experiments, hath demonstrated.

Nature deposits this matter at the joints, and what is so deposited is either gradually dissipated there, or thrown off by perspiration, and sometimes by a thick foetid sweat; but till these operations are finished, the patients suffer the greatest torments, which they would be glad to buy off at any price. Sydenham, after the strictest attention to the genius of this distemper, observed^v, that gouty people, the more violent and sharp the pain had been, regained always a firmer state of health afterwards, and were so much the longer of being attacked again with a new paroxysm. *Merbo jam discusso, ægri tum appetitus tum visus redeunt, pro rata doloris, quo sævebat paroxysmus nuper elapsus, et in eadem proportionem servata vel acceleratur, vel differtur, sequens paroxysmus. Nam si hic ultimus ægrum pessime multaverit, sequens paroxysmus, non nisi anno ad idem punctum revertente, de-*

L 3

nua

nunc accedet. “ When the disorder goes off, the patient’s appetite and good habit of body return, in proportion to the sharpness of the pain in the late paroxysm; and in the same proportion is the subsequent one either accelerated, or delayed: for if the patient has suffered very severely from the late fit, he will not probably have another till that time twelvemonths.” Whence he was of opinion, as we said before, that the pain was nature’s bitter remedy, which she employed in subduing this distemper. *Quanto enim magis ægri dolores lenit, tanto magis humorum concoctioni adversatur; quantoque claudicationem arcet, tanto materia morbosæ expulsiōni officit*^z; “ for the more gentle she is in regard to pain, the more she hinders the concoction of the humours; and the more sparing she is with respect to lameness of the parts, so much longer is the expulsion of the morbid matter retarded.” Nay, when the pain was extremely severe, he never was apprehensive about the life of the patient; but when the pain either remitted too soon, or had been more than usually gentle, as commonly is the case with people who have long had the distemper, and more particularly if they are far advanced in years, then indeed he thought there was the greatest danger^a. Whence *Hippocrates*^b also pronounces this distemper to be long, troublesome, and difficult to cure, though not very mortal; for we see that gouty people, if they are patient under this distemper, arrive commonly to good old age. Hence the goddess *Podagra*, in *Lucian*^c, extremely angry that all mankind should curse her alone, and not rather the pain, says,

*Verum dolor mihi malorum adiutor est;
Nihil ego namque sum, si ab hoc relicta sim.*

Hoc

^z Tract. de podag. pag. 594. ^a Ibid. pag. 597. ^b De affect. cap. 8. Charter. Tom. VII. pag. 630. ^c Tom. III. pag. 665.

*Hoc ergo mordet, hoc animum subigit meum,
Dolorem quod malorum originem omnium,
Maleficis maledictis haud quisquam sauciat,
Sed contra me laxant vocem execrabilem,
Mea sperantes evitare vincula.*

“ But to the fury Pain it is I owe
“ All my tormenting power of causing woe.
“ This grieves my soul, this galls me to the heart,
“ That none should curse the author of their smart;
“ For without him I’m nought; and yet, you see,
“ All, all let fly their horrid oaths at me,
“ With imprecations vile my name prophane,
“ As if by these they could escape my chain.”

Hence the goddess acknowledges pain to be her inseparable attendant, and from pain it was that Sydenham expected a safe release^d. *Cum enim morbi formes non solum generatus, sed in articulos jam ablegatus, fuerit, sero nimis vel ejusdem mutationem vel eliminationem, per alias vias conabimur: cum non alia methodo foras ejiciendus sit, quam ea, quam natura præmonstrat, cui soli permittendus omnino est.* “ For when the dis-
“ tempered matter is not only generated, but already
“ transferred to the joints, our endeavours, either to
“ change it or throw it off in any other way, will
“ then be too late, seeing it is not to be evacuated
“ by any other method than that which is pointed
“ out by nature, to whose care it ought to be com-
“ mitted entirely.” In the mean time,

*Multæ formæ infortunatorum,
Meditatio pænæ, et consuetudo,
Podagros miseros consolentur^e.*

“ Misery in various shapes,
“ Habitual acquaintance with their torments,
“ Are all the comforts left to wretched sufferers.”

L 4

For

^d Tractat. de podagra, pag. 593.

^e Lucian. Tom. III. pag. 663.

For when the gouty matter is hindered from discharging itself at the joints, or, when deposited there, if it is again repelled, the patients are always threatened with the greatest danger.

For this being retained, if it gets into the brain, occasions apoplexies, &c.] It was before observed, at § 1260, that the gouty matter came to be transferred to various places of the body, when the parts accustomed to receive it formerly, during a paroxysm, were so altered and dammed up by the long continuance of the disease, or other causes, that they either could not at all, or at least with great difficulty, receive it any longer. It was at the same time evident, that the matter not only extended itself universally over all the external parts of the body, but sometimes even seized upon the *viscera*; and therefore it is plain, that according to the different parts on which it seizes, such will be the different disorders that from thence arise. But seeing it can afflict the tendons, ligaments, and the very bones, the hardest parts of the body, what mischiefs may we not apprehend, when the same morbid matter exerts all its force upon the *viscera*? There are numerous examples, in the medical history, of sudden death following, in consequence of a repulsion of the gouty matter. *Demetrius Pepagomenus*, speaking of this disease, makes this remark: *Nec vero tantum in manus, pedes, omnes articulos tales feruntur fluxiones: verum etiam in cerebrum, jecur, atque adeo ipsum cor; quæ quidem sunt teterrimæ, et liberatu difficillimæ*: “ Nor is it only to feet, hands, and all
“ the joints, that these defluxions are carried; but
“ also to the brain, liver, and even the heart itself;
“ the consequences of which are very horrid indeed,
“ and very difficult to remove.” If then the gouty matter is deposited on the brain, it occasions every disorder.

disorder that the brain is subject to, even a sudden and mortal apoplexy; instances of which I myself have seen, when, at the usual time of the paroxysm, the pains were either very gentle, or went off in a hurry: for then a vertigo, tremor, and apoplexy, soon follow, and that so quickly, that all remedies, however otherwise efficacious, came too late. But should it seize upon the lungs, there succeeds a violent asthma, that threatens suffocation, which is preceded by a dry, uneasy cough. This has been observed by *Aretæus*^z, for he remarks, *Multis in hydro-picum morbum podagra concessit; quandoque vero in asthma: horum vero successio inevitabilis est.* “In many
 “cases the gout terminates in a dropsy, and some-
 “times in an asthma; and this succession is impos-
 “sible to be avoided.” *Sydenham* observed^a, that if a cough had been contracted in the winter, from cold during the time of the paroxysm, *materiam sensim in pulmones allici, artubus interim, ob translationem materiæ morbosæ in aliam regionem, vel omnino, vel tantum non, tam a dolore, quam a tumore liberatis,* “the mor-
 “bid matter was gradually drawn towards the lungs,
 “while the joints in the mean time, on account of
 “this translation of the matter to another quarter,
 “were either altogether, or very nearly, freed from
 “the pain and swelling.” And although *Sydenham*, as we have said, condemns all evacuation during the fit, yet in this case he advises to treat the disorder, like any other peripneumony, by bleeding and other remedies, on account of the great hazard of suffocation. Should they even escape this particular danger, there is yet reason to fear, if the gout be of the tophaceous sort, lest something of this kind of matter be deposited in the lungs, where, as we said before,

at

^z De caus. & sign. morb. diuturn. Lib. II. cap. 12. pag. 67.

^a Tractat. de podag. pag. 599.

at § 1261, chalky concretions have sometimes been found.

I remember to have had a person under my care, who had long been afflicted with the gout, and used to be only free of pain during the summer months, who was in the highest degree of joy on getting a whole year's respite from the distemper: but all at once he was taken with a vomiting, and afterwards seized with a terrible pleurisy, which threatened immediate suffocation. After twice bleeding, the danger grew less, and by constant irritation with strong blisters the feet became painful: the breast was more and more relieved, and at last the disorder went off. But the paroxysms did not return regularly, and when the hands and feet were affected, yet the pains were rather slight, and of short continuance; whence a pleurisy, like the former, returned three times in the space of ten months, till at length every thing that was tried as a remedy proved ineffectual, and he died.

What mischiefs are to be dreaded from this matter falling upon the stomach and intestines, we may easily comprehend. A soldier once applied some camphorated spirits of wine to his joints, to take away the pain; and by this the morbid matter, being suddenly driven back, seized upon the abdominal *viscera*. The poor man grew immediately convulsed, lost his voice, and broke out into cold sweats, so that he was almost given over for lost: however, after giving him a pretty large dose of liquid laudanum, he threw up a considerable quantity of greenish bile; then afterwards, by bleeding and blisters applied to his legs, he was snatched, as it were, from the jaws of death.

Seeing, then, that so many and various disorders are to be apprehended from the retrocession of the gouty matter, it is therefore very necessary to attend

† La Coste traité sur la goutte, pag. 98.

attend carefully to the signs that warn us when these mischiefs are to be apprehended. Such a retrocession of the gouty matter happened to *Sydenham*^k; and he observes, that it was presaged by *ægritudo ingens cum vomituritione, et aliquali ventris dolore; dum simul artus ex improviso doloris sunt expertes, ac ad motum plus solito habiles*, “a violent degree of sickness
 “with vomiting, and some little pain in the belly,
 “when, at the same time, the gouty pains all at once
 “left the joints, which at this time could perform
 “their motions with unusual agility.” When the joints suffer much from pain, it is a certain sign that the matter is deposited on these parts; but it often happens, that the matter can by no means be deposited there, and therefore falls upon the *viscera*. In this case, however, I have always observed a sickness go before: hence it is prudent in physicians, when any sudden disorder attacks persons they know are gouty, always to have regard to this disease, and to irritate the parts that have been formerly affected, by frictions, fomentations, blistering, and every other way to derive the wandering matter thither, which threatens to lay hold on the *viscera*. But such means are more particularly to be tried when a gouty person, not having had a fit for some considerable time, commits some manifest error in his way of living, or when the signs mentioned at § 1257, appear, which shew that the morbid matter is at hand, and ready to exert itself, though it may not as yet be deposited upon the joints. *Totis viribus contendendum est, ut ignea colluvies ista in partem quam prius occupaverat revertatur*^l. “We are to strive with all our
 “might to divert this fiery *colluvies* towards the
 “place it first occupied.” For, though the disease is attended with many and various symptoms, according to the diversity of *viscera* which are affected,
 yet

^k Tractat. de podag. pag. 706.

^l Mead. monit. & præcept. med. pag. 197.

yet no truce of ease can be depended upon till a sharp fit of the gout be excited. By the most powerful effort that I tried in the case of the gouty veteran just now mentioned, I could not excite a pain that was any way sharp, but only what was gentle, and of very short continuance; and at last, after relapsing twice, he died miserably, with a violent snoring, and with incredible anxiety and struggle.

Others, with whom I had better success, in the bitterness of their anguish poured out imprecations and curses upon me, wishing rather for death than to undergo such excessive torment; for the paroxysm is generally exceeding severe when the wandering gouty matter is once recalled again to the usual places.

All these, however, suppose the physician to know that the patient is subject to the distemper, by hereditary taint or otherwise; but it happens sometimes, that the gouty matter existing in the body shall disturb the various functions, even before it has produced one regular fit at the joints. Thus we mentioned before, at § 1262, that a troublesome vertigo and an epilepsy itself were cured, on the first appearance of a fit of the gout, in persons who had never suffered from this disease before. I had occasion to observe, in a very fat person, formerly subject to nephritick disorders, a pain all about the left kidney, that was raised by the rude jolting of a carriage, attended with *nausea*, thin limpid urine, and an astricted belly: when he lay down in bed, the pain increased, and hindered him from sleeping: after all the remedies had been tried, that used to do him service, as they imagined it to be the same disorder, in a few days the pain of a sudden removed from the loins into the toe of the right foot, and there introduced the fit, and indeed a very sharp paroxysm of the gout. No body, I believe, in this case, imagined it to be the gout: the seeds however, not as yet

yet germinated, (see § 1257.) had certainly lain a long while unsuspected in the body.

The same mischiefs happen from the imprudent use of narcoticks, &c.] Sydenham, instructed by his own sufferings, every where inculcates as a maxim, that pain is the only, though disagreeable remedy which nature employs to digest and to dissipate the gouty matter, when derived to the joints; and assures us, that the more severe and painful the paroxysm is, so much healthier, and longer free from another attack, will the patients remain when it is over. All are not of so patient a temper as to bear these torments with firmness, which frequently indeed exceed all human patience; whence they are prone to try every thing that flatters them with the least hope of relief: hence they have an easy faith in strolling quacks, barbers, silly women, chemists, &c. who resort to every place where they know a rich gouty person is laid up in this condition; and hence all that farrago of remedies, taken from the animal, vegetable, and mineral kingdoms, which the goddess *Podagra*, in *Lucian*, so archly ridicules^m. Let any one but examine the list of remedies in *Trallianus*, at the end of the eleventh book, where he treats of the gout, and he will see how frivolous, useless, and superstitious they are. Words of no signification are to be graven on plates of gold, nor do they scruple to borrow the name of *Jehovah*, to charm away the pain. *Lucian* has truly saidⁿ,

*Carminibus alius impostorum luditur,
Judeus uactus stultum excantat alterum.*

“ By charms t’ allay the pain, some vainly try;
“ To Jewish incantations others fly.”

In

^m Tom. III. pag. 653, & seq.

ⁿ Ibid. pag. 655.

In short, every thing has been tried to alleviate the disorder. *Servius Claudius*, when he was seized with the gout, *hujus impatiens veneno sibi perunxit pedes, et enecuit, ita ut parte ea corporis quasi præmorta vixerit*, “being no longer able to bear it, applied
 “some poison to his feet, and rendered them so insensible, that he lived, ever after, as in a state of
 “separation from these parts of the body.” *Pliny* relates the same of a Roman knight^p, to wit: *Mag-nitudine doloris in podagra coactum, veneno crura perun-xisse, et postea caruisse omni sensu aque ac dolore in ea parte corporis*: “That being obliged through the
 “severity of the gout, he anointed his legs with
 “poison, and ever after was deprived of all sensi-bility, as well as pain, in that part of the body.” What kind of poison this was, we are as yet to learn: it seems however probable, that they took it from among the stupefying class. *Hippocrates*^q, speaking of the beneficial and hurtful qualities of cold, says, *Tumores in articulis, et citra ulcus dolores, et podagricos affectus, et convulsa, hæc magna ex parte frigida copiose affusa et levat, et minuit, doloremque solvit: moderatus nempe stupor dolorem solvit*. “Cold liquor, plenti-
 “fully poured upon swellings in the joints, pains
 “near an ulcer, gouty disorders, and convulsed
 “limbs, considerably alleviates, lessens, and removes
 “the pain: for a moderate degree of stupefaction
 “removes every sort of pain.” Now we are to observe, that he does not say it is always alleviated, but only considerably, or for the greatest part; and that here he expected an alleviation only from a moderate degree of stupefaction. *Ætius*^r informs us, that he had seen one labouring under what he calls the bilious gout, *qui immixtis in frigidam aquam pedibus, et aliquamdiu in ea retentis, præclaram opem tulit*, “who
 “ob-

^o C. Sueton. de illust. grammat. cap. III. pag. 704.

^p Lib. XXV. cap. 3.

Tom IX. pag. 210.

^q Aphorism. 25. sect. V. Charter.

^r Sermon. XII. cap. 28. pag. 321.

“ obtained extraordinary relief from immerſing and
 “ keeping his feet ſome time in cold water.” But
 we have on another occaſion remarked, when we
 ſpoke concerning the uſe of cold water in palsies,
 and in opening the belly in obſtinate iliack diſorders,
 as alſo when we conſidered the means of checking a
 ſudden and dangerous *hæmoptœ*, that perſons after
 drinking cold water, or having it applied externally,
 grew generally hot when put to bed, and were greatly
 relieved by a plentiful ſweat. Doubtleſs the very
 ſame may be expected, when people in the gout
 immerſe their feet in cold water; for thus the gouty
 matter may be expelled out of the body, by a copious
 ſweat excited upon the part affected. An officer of
 foot, by the advice of a country villager, rubbed his
 gouty feet with ſnow, and by this means got rid of
 his pain; whence growing bolder, he ventured to ac-
 cuſtom himſelf to walk a little way bare-footed upon
 the ſnow, and returned home quite free of pain;
 nor did the gout return for a whole year after, which
 at other times ſeldom ſtayed ſo long away*. Snow,
 rubbed on the hands, every one knows, puts them
 afterwards in a heat; and this ſeems to have been
 the caſe here: beſides, it muſt be obſerved, that
 this patient had been laid up for three weeks before,
 ſo that the matter might have had time to ripen,
 and thus could more eaſily be exhaled from the body.
 But that *Ætius*† expected ſuch effects from cold and
 ſtupifying remedies, will appear from what he im-
 mediately ſubjoins in the ſame chapter. *In horum ta-
 men medicamentorum uſu immodici caloris deletionem pro
 ſcopo habere oportet, quæ sæpe in una contingit hora:
 poſtquam ſtatim, ſtupeſactivo ablato, cataplaſma ex fa-
 bacea farina, adipeque, et aqua imponatur. Etenim ubi
 ea quæ vebementer refrigerant, diutius adhaſerint, ſtu-
 pore, ægrumque ac languidum ſenſum, corpori inducunt.*

Qua-

* Pechlin obſervat. phyſico medic. Lib. II. obſerv. 28. p. 280.

† Sermon. XII. cap. 28. pag. 320.

Quapropter, quum in ferventibus doloribus fuerimus ad stupefacientium usum coacti, postea resovebimus partes per ea quæ calefacere possunt. “ Yet in the use of these
 “ remedies our principal end must be, to take
 “ away the immoderate heat, which often may be
 “ done in the space of an hour : presently after this,
 “ a cataplasim of bean-flour, grease, and water,
 “ is to be applied : for when such remedies as
 “ stupefy, remain too long, they bring on a languid,
 “ dosing sensation over the whole body : wherefore,
 “ in hot raging pains, when we are obliged to have
 “ recourse to stupefying remedies, we must after-
 “ wards cherish the parts again with applications of a
 “ warmer nature.”

From the above, it is plain how ticklish *Ætius* reckoned the management of such remedies. The morbid matter is without doubt very easily moved, and when driven back suddenly by such a degree of cold, or by the use of astringent medicines, may very readily lay hold upon the *viscera*, to the great danger of the patient, who can hardly have any hopes of escaping, unless this matter is properly recalled again towards the joints ; and even then it commonly occasions much severer pains than before ; so that, for the most part, much danger and little advantage accrues from having recourse to such irregular methods of cure. I saw once a gentleman of an active, stout habit of body, who, having applied a piece of ice cut to the shape of his gouty foot, rid himself indeed very soon of the pain ; but in a little after, a filthy *herpes* broke out all over his face, and, taking possession of his very eye-lids, occasioned the greatest uneasiness, from which he scarcely had got him free, when a very sharp fit of the gout quickly succeeded.

I knew another, who, having a very plentiful fortune, indulged himself daily in eating and drinking to excess, and by that means contracted a very sharp
 and

and painful gout. A certain plaister was applied by a quack, in the beginning of the paroxysm, to the part affected, from which, indeed, he received a very quick relief from the pain: upon this he insulted his own physician grievously, on account of his caution, and talked of nothing, from noon to night, but the virtues of this divine plaister, loading, besides, the quack with very liberal presents. The stroller in a few days went off, and hardly a month had passed when the gentleman was taken with a violent pleurisy: this being treated with proper care, and efficacious remedies, he was, to all appearance, in a fair way of recovery, when he was seized with a fit of the gout, more severe and lasting than he had ever known before, the consequence of which was, that he never after had the use of his limbs, though he lived thirty years after this attack, in a very miserable condition.

Trallianus ^u very judiciously makes the following remark: *Ego vero affirmo, ne astringentibus quidem, et repellentibus, in affectis partibus utendum esse, nisi totum prius corpus a recrementis liberaveris: nam quod articulis influit, ne, ad principales partes recurrens, suffocationis causa fiat ægro, periculumque mortis adferat, metuendum est. Sive igitur discutientibus, sive repellentibus uti velis, totum corpus recrementis vacuare properato.*

“ For I do positively affirm, that neither astringents
 “ indeed, nor repellents, ought to be applied to the
 “ parts affected, until the whole body is first cleared
 “ of recrements: for there is reason to be afraid,
 “ lest what flows into the joints should be driven
 “ back towards the chief vital parts, at the risk of
 “ suffocating the patient, and bringing on death.
 “ Whether, therefore, you intend to make use of
 “ astringents or repellents, see that you make haste to
 “ clear the body first of recrements.” Now it is

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M

plain,

plain, by recrements, he means the gouty matter which is derived to the joints. Sydenham^w also inculcates the same thing over and over, to caution us against the use of such remedies, in the cure of this distemper; *et fidenter asserit multa et longa observatione suffultus, maximam partem eorum, qui podagra periisse putantur, non tam ipso morbo, quam sublesta atque indebita medicatione, fuisse peremptos*; “and that, “from his long experience and observation, he could “with confidence affirm, that the greatest part of “those who have been thought to perish by the “gout, owed their death, not so much to the distemper itself, as to the pernicious and improper “method of cure.”

Or from administering a remedy which impairs the strength, &c.] In order to derive the morbid matter properly towards the joints, it is requisite to have our constitutional forces entire: hence it is, that in the vigour of life we find the paroxysms attended indeed with much sharper pains, but, *cæteris paribus*, much sooner over, and longer of returning, because the gouty matter is with sufficient force and expedition deposited at the usual places.

But when, either from the long continuance of the disease, the approach of old age, or whatever other cause, the strength begins to flag, then, though the pains are more tolerable, yet the fits continue longer, and become irregular, and during the intervals the patients are always languid, while, at the same time, their former degree of strength hardly ever returns. Whence Sydenham^x, although he advises, in general, a moderation to be observed in eating and drinking, yet condemns too great an abstinence, having found it hurtful in his own case, as well as in that of some

^w Tractat. de podag. pag. 598—601.

^x Ibid. pag. 578.

some others; and although he gave the preference to well-boiled meats before any other kind, yet he thought the patient's taste might be in this case consulted. *Nam sæpe numero id, quod ventriculus vehementer appetit, licet difficiliter coquatur, citius tamen a natura vincitur, quam quod facilius coctionis habetur, si ventriculo nauseam creet.* "For that frequently, which
 " the stomach very much desires, though in itself harder to digest, may sooner be subdued by the natural
 " appetite, than that which is reckoned of easier
 " concoction, when it happens to be displeasing to
 " the stomach." Nay, even during the time of the paroxysm, though he acknowledges a thin diet to be the best, yet he remarks, that some people cannot bear a total abstinence from flesh meats, but grow languid, nay, sometimes are taken with faintings. To these people then he allows flesh meats, whenever the appetite seems much to desire them, always taking care, however, lest such patients should transgress in the quantity or quality of these meats; for, though the strength is to be supported^y, yet the body must not be overlaid with too great a quantity of aliment.

But seeing that bleeding, purgatives, and emeticks, by evacuation, bring on weakness, (see § 1270, 1271.) and do not either reach the matter, seat, or cause of the disorder; their use, therefore, by all means ought to be rejected, inasmuch as they lessen the powers necessary to digest and ripen the morbid matter, and to forward its deposition at the joints. Yet, when, by a dangerous *metastasis*, the morbid threatens to attack the lungs or brain, we are then, as we said before, to make use of evacuants; for of two evils in our option, the least is always most eligible.

Sydenham^z expected little advantage from external applications: a poultice of bread and milk, with the addition of a little saffron, and some oil of roses, he

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found

^y Tractat. de podag. pag. 594.

^z Ibid. pag. 601.

found preferable to any other, and even that did no manner of good in the beginning of a paroxysm; so that afterwards, paying no regard to such frivolous remedies, he for many years laid aside the use of external applications entirely: neither did he ever administer anodynes, but when the pain went beyond what the patient could bear, and thought it always much better to omit them. But this matter will be farther considered at § 1278.

As also the spontaneous weakness of decrepit old age, &c.] We have spoken already, at § 55, of the changes which happen in the human body from old age. The vessels, for instance, grow together, and become callous: hence all the functions depending on the free motion of the most subtile humour through the smallest vessels, will begin by degrees to be done away, while at the same time the other humours will degenerate into a cold phlegmatick depravity, until, at last, the circulation of the liquids fall solely to the share of the larger vessels, which at length are changed into a cartilaginous, nay, even a bony hardness, and thus can neither be any longer distended by the impulse of the liquids, nor of course have any reaction upon the liquids again; so that death must be the consequence of old age, even in people of the healthiest constitutions. Those in the last stages of old age are said to be decrepit, because human life used to be likened to a lamp, whose flame, for want of oil, being ready to expire, makes a crackling sort of noise; whence a lamp or light, ready to go out, is called in Latin *decrepita*: hence old men, ready to expire through age, are said to be decrepit: hence too they seem to have expressed a glimmering or twilight by the word *crepusculum*. In this latter period of life the vital powers are all languid, many vessels are entirely shut up, and the humours thickened, sluggish, and unfit for motion:

hence we can neither expect a due concoction or maturation of the morbid matter, nor a proper derivation towards the joints, because of their rigidity; whence there remains either a perpetual feebleness, or the morbid matter comes to be deposited on the *viscera*: and this must necessarily happen likewise, when the joints at the extremities of the body are so disordered, by the repeated attacks of the distemper, or the generation of tophaceous swellings, as to be no longer in a condition to give it admittance. This was mentioned before at § 1260, where it was shewn how the disease spreads to other parts of the body.

Hence appears what sort of gout, and with what symptoms attended, [Ec.] *Sydenham*^a very justly remarks, that there is a great deal of difference in the gout, according to the period of life in which it first attacks; for when it makes the first attack upon a person worn out with years, the paroxysms are neither so regular, nor so cruelly painful, as when it invades one in the vigour of life. Such persons are frequently cut off by old age, ere the disease arrives to the last stage; and they may indeed be said to die gouty, though their death is more justly to be ascribed to another cause.

But the gout, though with reason numbered among the most lasting diseases, nevertheless, at last may bring on death. The symptoms that attend this last stage are described very skilfully by *Sydenham*^b. The paroxysms of an inveterate gout are drawn out to a greater length, and, excepting two or three months in summer, continue to infest the patient throughout the whole year: besides the pain too, he suffers a kind of sickishness, with a total loss of appetite; his feet, at the same time, are never free

M 3

from

^a Tractat. de podag. p. 546.

^b Ibid. pag. 551, & seq.

from pain ; and after eating there arise disagreeable, unsavoury belchings ; the urine comes off limpid, and in large quantities, and he feels an itching in several parts of the body, particularly in the back, towards the time of going to bed ; the tendons belonging to the muscles of the feet are also frequently seized with the most painful cramps. At last, *post multos cruciatus, & carnificinam diuturniorem, ceu pignus missionis, quam mors jam in propinquo stans mox est datura*, “ after a variety of torment, and a long “ exercise of torture, as a sure token that death is “ not far off, and ready to let fly his weapon,” the subsequent paroxysm gives him much less torment, but rather afflicts him with an uneasy sickishness, gripes, spontaneous lassitude, and sometimes a tendency to looseness. The more pain he feels in the joints, the more these symptoms disappear, *et vice versa* ; and thus vexing and harrassing, sometimes with pain, sometimes with sickness, the lingering paroxysm spins out the time, and wears off at last by sickness, rather than pain. And so, *tandem vitam afflictissimam, & jam diu non vitalem, cum morte ærumnarum requie, feliciter commutat*, “ at last he happily “ exchanges a life of the greatest affliction, and “ which had nothing in it for a great while, that “ could be properly called vital, for death, the reliever of every pain and sorrow.” For now the strength insensibly decaying, the morbid matter can no more be discharged at the joints, the parts ordained to receive it being all obstructed, grown together, or destroyed ; whence it is deposited on the *viscera*, and there occasions disorders the most sudden, dangerous, and mortal.

S E C T. MCCLXXIV.

THEREFORE the cure recommended by experience, and a due consideration of the disorder, is effected, 1. by restoring the lost vigour of the bowels, (1265.) 2. by carrying off the corrupted liquids, flowing as yet in the vessels, or stagnating in the places assigned, (1262, 1263.)

To manage rightly the cure of diseases, it is always requisite to have a thorough knowledge of their particular history, which cannot be attained, unless accurate and careful observations have first been made on the whole progress of each distemper: for, these being known, the curative indication, or method of cure, may readily be deduced. Now, if upon treating a distemper agreeably to this curative indication, a considerable relief or thorough cure should follow, we may then be pretty certain, that the genuine method, pointed out by a due consideration of the disease, had been employed, and that the utility of it has been confirmed and recommended from experience.

The whole history of the gout makes it evident, that great and frequent excesses in the use of the non-naturals are the most obvious causes of this distemper; and that, on the other hand, a moderate and well-regulated use of them contributes much to alleviate the disease already formed, and may prevent it from forming, even in those who are subject to it from a hereditary taint, or at least may work this effect, to keep it at a greater distance than otherwise it would have been, had not the same care been taken.

It is moreover evident, that the gouty matter, during the time of the paroxysm, is either expelled out of the body, or changed in such a manner as to be perfectly harmless, seeing the body regains its former state of health, and the limbs their accustomed agility, as we see is the usual case in a gout that is regular, and not yet grown inveterate. Mean while, in such a person who appears in all respects quite healthy, this same morbid matter is again collected in the space of some months, and being again deposited at the joints, renews the paroxysm. Hence physicians of skill have employed their thoughts on a method to prevent the causes of a future paroxysm, and thus hinder it from being again produced. Here all acknowledge a well-regulated and proper diet to be of the greatest service. But the choicest aliment whatever requires so to be changed, by the action of the *viscera*, as it may easily be assimilated to the nature of our solids and fluids; for if the action of the *viscera* is not of sufficient force to subdue what is taken down, the last and finest elaboration of all cannot take place; and so there must something faulty and defective remain in the body, as we have before observed at § 1265. This latent taint may likewise be so subtle, as not to discover the smallest mark of its existence in the larger vessels, and grosser humours, (see § 1267.) having its residence only in the finest nervous liquid, that, I mean, which is produced by the last and highest degree of elaboration. Now it appeared, at § 1262, 1263, that a depraved state of the finest liquids, and the vessels through which they pass, was to be reckoned as the proximate cause of this distemper. But when this depravity is once accumulated, or rendered still worse, by stagnating in the body, then it is fitted to excite a new paroxysm, by which the depraved taint is either gradually dissipated, or forcibly expelled out of the body: whence they endeavoured to restore fresh vigour

gour to the *viscera*, in order to obtain the most complete concoction and assimilation of all the humours; and if any kind of depravity had already taken place in the finer liquids, and mixing with the other humours, accompanied them in their circulation through the vessels; or if it was already deposited on these places which it usually infested during the time of the paroxysm, this they tried by all methods to take away: and on these two points turned the whole cure of the gout. Whence *Ætius* says^c, *Quare duplex etiam sanationis scopus nobis præfigetur; evacuatio redundantis humoris & corroboratio partium debilitatarum*, “With
 “ regard to the cure, therefore, we must have a two-
 “ fold end in view: the evacuation of the redun-
 “ dant humour, and strengthening the parts that are
 “ weakened.” *Sydenham*^d, after having collected all the phænomena of the distemper, and considered each with strict attention, concludes, that in the cure of this disease, there are two causes that we have principally to encounter. *Prima est causa antecedens, sive humorum indigestio, a caloris et spirituum naturalium defectu orta. Altera est causa continens, sive eorundem humorum calor & exæstuatio; ubi jam, tum putredinem, tum etiam acredinem, nacti sunt a mora in corpore, quam oportuerat diuturniore; quæ mora ab incoctione supra memorata pendet.* “The first is the antecedent cause,
 “ or an indigestion of the humours, arising from a
 “ deficiency of heat and native spirits: the second is
 “ the containing cause, or a heat and ebullition of
 “ these same humours, having now acquired a de-
 “ gree of corruption and acrimony, from being re-
 “ tained too long in the body; the cause of which re-
 “ tention depends upon the aforesaid deficiency of
 “ concoction.” However, he very judiciously re-
 marks, that the remedies calculated to subdue these two causes are, in their nature, entirely opposite to each other; so that what, in one of these causes, shall
 be

^c Sermon. XII. cap. 12. pag. 314. ^d Tractat. de podag. p. 566.

be of the greatest service, will be of the greatest prejudice in the other. And this he thought constituted one of the principal difficulties in curing the gout: for those things that were of service in assisting digestion, did harm by their heating qualities, in rendering the morbid matter more active and outrageous; and, on the other hand, those which served to refrigerate and blunt the acrimony of the humours, were of manifest injury in weakening the *viscera*. Besides, he thought that the morbid matter, during the time of the paroxysm, was very rarely found to be expelled altogether out of the body, so as no remains should stay behind; whence he was afraid, lest these morbid remains should be put in agitation by such things as restored the functions of the *viscera*, and either produce a new paroxysm, or, what is still more dangerous, be driven into the *viscera* themselves, *quandoquidem materiæ continentis eliminatio naturæ omnino opus est, sua ipsius methodo peragendum**, “the elimination of the contained matter is entirely
“the work of nature, to be brought about after her
“own manner of working alone.” However, the chief intention of cure he places in this, *ut coctioni indigestionibus sublatis consulatur*†, “to forward concoction by
“taking away the causes of indigestion.”

But if we consider the gout as a disease proper to old men, and that the functions of the *viscera*, at this time of life, begin to grow languid, and that sometimes even these too are still more weakened by other chronick disorders preceding or accompanying the distemper, we shall see another very good reason why it is so difficult to cure. Yet Sydenham‡ advises, *quantum vires, annique, sinunt, tentandum esse curationem; et prout æger propius ad hanc metam accedet vel recedet longius, podagræ tyrannidem magis minusve effugiet*, “as far as the strength and years will admit, to attempt a cure; and in proportion as the patient ap-
“proaches

* Traët. de podag. pag. 567. † Ibidem. ‡ Ibid. pag. 557.

“proaches or is distant from this standard, so has he
 “more or less a chance of escaping from the tyranny
 “of the distemper.”

Let us then see by what remedies, and with what caution, we are to proceed in obtaining this two-fold scope, or intention of cure.

S E C T. MCCLXXV.

TO the first belongs, α . The use of aromatick, bitter, and antiscorbutick plants, chiefly taken in substance, mixed with honey. β . The use of lixivious fixed salts, taken for a long time in small doses, frequently repeated. γ . Nourishing meats and drinks, that are light and of easy digestion. δ . Hard continued exercise, riding in a pure country air, with friction and motion of the parts often reiterated. ϵ . Going early to bed, and lying long in the morning.

It is necessary that we now consider those remedies which are expected so to restore the vigour to the *viscera*, as shall answer the end of the first curative indication in the foregoing paragraph.

α . Seeing the *primæ viæ*, or what are called the *viscera* of the first concoction, act in a particular manner upon the aliments, and that not only by their own proper power and efficacy, but also by the plentiful effusion of humours, which have already attained the nature of a human liquid, so changing them, that having almost put off their own primitive nature, they approach nearer to the nature of the fluid and solid parts of our bodies; these remedies have been therefore held in the greatest esteem, which could increase the action of the stomach and
 intest-

intestines upon the aliments, so as to obtain from them a proper quantity of good laudable chyle, to be afterwards converted into blood, from which all our other humours are secerned. But as the chylo-poietick *viscera* act not only by containing, retaining, and gently pressing the aliment, but also by the affusion of necessary humours, among which the bile is thought to be of the greatest efficacy; therefore, such remedies as have a grateful aromack *stimulus*, and at the same time a bitterness like that of bile, have been in the highest request: for thus the *viscera* are irritated into a brisker motion, and if the bile should have lost its proper degree of acrimony, the bitterness of the remedy corrects that inconvenience: whence all bitters, that are not purgative, in every age have passed under the appellation of stomachicks; and because gluttony and surfeiting, which disturb and weaken the places of digestion, give rise so often to the gout, they are therefore considered as every way proper in this distemper.

These bitter remedies we have recommended on another occasion, when treating of chronick disorders, § 1051-1-2, in the cure of excessive fatness, to supply the scarcity and want of acrimony in the bile. But *Galen*^b, as we have there observed, recommends, *rutæ semen, præsertim sylvestris, una cum ipsis corymbis, et aristolochiam rotundam, et centaurium minus, et gentianam. et polium*; præterea ex urinam cientibus ea, quæ pollentes habent vires, ut *petroselinum*, “ the
 “ seeds and tops of rue, especially of the wild sort,
 “ round birthwort, lesser centaury, poly-mountain;
 “ and especially those plants which are remarkable
 “ for provoking urine, as parsley.” He remarks at the same time, that the same medicines are used by some people in arthritick disorders. They are administered either singly, or mingled in certain proportions together.

But

^b Method. medend. Lib. XIV. cap. 15. Charter. Tom. X. p 335.

But we find that these very remedies, or something very like them, have been for a long time given in the gout, and sometimes sold at a very high price. *Trallianus*¹ describes the like antidotes, which he advises to be taken a long time, sometimes for six months, and even a whole year together, omitting however some days only now and then. *Ætius*^k recommends something of the same nature, and among the rest the *tetrapharmacon*, composed of four ingredients, namely gentian and birthwort roots, bay berries, and myrrh, of each equal parts. At present the *theriaca diateffaron* of the shops, is no other than the powder of that name, mixed up with a triple quantity of honey, and reduced to the form of an electuary.

Almost all however agree in this, that such remedies, to reap any benefit from them, must be continued a very long time. Hence *Aurelianus*¹ calls them *annalia*, or medicines of a year, because they are to be taken for a twelvemonth together; *sin minus, representandum numerum dierum quo integer compleatur annus, quanquam longo tempore porrectus*; “but if not, the number of days it has been taken, are to be reckoned till they make up a year complete, though the time from the first beginning should extend much beyond that space.” Yet they don’t seem to have ascribed much intrinsic efficacy to these remedies, but rather to have believed the regularity of diet, more particularly observed at this time, to be chiefly instrumental in the cure of this disease.

It is however certain, that such remedies are of real service in restoring vigour and strength to the *viscera*, and so far, therefore, may very well answer the end of this indication. At the same time, it cannot be denied, but that they have been of real benefit
to

¹ Lib. XI. cap. 1. pag. 616, 618, 650.

^k Sermon. XII. cap. 47. pag. 352, 353.

¹ Morb. chronic, lib. V. cap. 2. pag. 562, 563.

to many, though perhaps not to every gouty person. When a remedy of this kind became famous in England, for the great success it had upon the duke of Portland, who had been several years afflicted with a hereditary gout, doctor *John Clephane*^m, an eminent physician in London, compared the ingredients of this medicine with those which were to be met with in the antient books of physick, and found the powder called Portland's powder to be the same with the *diacentaurius* of *Cælius Aurelianus*, as also with the antidote of the two kinds of centauries described by *Ætius*.

The form however of this Portland powder is as follows :

Rad. aristolockiæ rotundæ,

—— *gentian.*

Summit. chamædr.

—— *chamæpityos,*

—— *centaur. (min.)*

ana. part. æquales.

“ Of roots of round birthwort,

“ —— gentian,

“ Tops of germander,

“ —— ground pine,

“ —— lesser centaury, each equal parts.”

Which, being dried, must be reduced to a powder, a drachm of which is to be taken in a little wine, water, broth, tea, or any vehicle, in the morning, with an empty stomach, the patient taking nothing for an hour and a half after : it is to be used in this manner, without interruption, for three months : then three fourths of a drachm is to be taken the three months following : half a drachm is to be taken every day for six months after : and the year following, it is

suffi-

^m Med. observ. & inquir. Tom. I. pag. 126, &c.

sufficient if the same quantity be taken only every other day. He remarks at the same time, that it is two years sometimes complete, before any remarkable amendment is to be observed in the disorder; and advises the patient at the same time not to be discouraged, by the length of time, from taking the remedy, even though the good effects of the remedy should not so immediately appear.

Lucian^a also seems to have had his eye upon these sorts of compositions, when he makes the goddess *Podagra* recount the various remedies, by which her wretched sufferers endeavoured to overcome the *Invincible Mistress of Pain*.

*Bibunt alii de quatuor rebus pharmacum,
Sed octuplex alii, septemplex plurimi.*

“ Some drink a diet-drink of four ingredients,
“ Another chuses eight, another seven.”

Sydenham^o, after having considered all the various methods of cure, held these remedies in the highest esteem, *quæ miti calore atque amaritudine ventericulus corroborant, et sanguinis massam vegetiorem reddant ac magis vitalem*, “ which by their gentle warmth and
“ bitterness strengthen the stomach, and give more
“ life and firmness to the mass of blood.” To the bitter and strengthening remedies he adds what are called the anti-scorbuticks, such as the *raphanus*, *cochlearia*, *nasturtium aquaticum*, “ horse radish, scurvy
“ grass, water cresses, &c.” and gives an ample catalogue, out of which such sort of medicines may be variously prepared; for as they do not act by any peculiar specifick virtue, but only in general, by their warming and moderately strengthening qualities, therefore he was for having only such things pitched upon, as should be most agreeable to the patient’s

^a Tom. III. pag. 654. ^o Tractat. de podag. pag. 568, & seq.

tient's liking; *cum enim diu admodum, scilicet ad omnem fere ætatem, in usu ejus perseverandum sit, omnino convenit ut palato minus sit ingratum* ^p; "for since it was
 " necessary to persevere a long time in the use of
 " these remedies, even through the whole of life al-
 " most, it was fitting the ingredients should be as
 " little disagreeable to the patient as possible." He
 remarks at the same time, that the Peruvian bark
 holds the first rank among strengtheners, and on that
 account advises some grains to be taken every morn-
 ing and evening.

However, though he otherwise finds no fault with
 the particular formulas of these remedies, yet he
 prefers the form of an electuary to all others:
 these ingredients then are to be reduced to a pow-
 der, and with the addition of sack and clarified honey,
 made up into the consistence of an electuary, two
 drachms of which he orders to be taken in the morn-
 ing, and as much at night. Nor was it in the gout
 alone he expected to find benefit from these sorts of
 medicines, but even in many other chronick disor-
 ders also, *quandoquidem singuli hujus generis morbi ad
 unam eandemque causam universalem, humorum scilicet in-
 digestionem, referri debeant* ^q, "seeing every disease of
 " this kind may be referred to the same cause; to
 " wit, an indigestion of the humours."

In the *materia medica* those simples are highly re-
 commended, as proper to be ranked in this class,
 which were said, at § 1233, to be excellent in the
 dropfy; all of them being either aromattick or bitter,
 and, the *gratiola* of the Germans excepted, none of
 them having the least tendency either to purge or
 vomit. When this little plant, however, which is
 exceeding bitter, is added only in a very small pro-
 portion, it can hardly raise any disturbance or com-
 motion, but may by its bitterness improve the other
 ingredients. It is to be observed in the mean time,
 that

^p Tract. de podag. p. 570. ^q Ibid. pag. 571.

that hot remedies may be administered in the dropſy, which is a very cold diſtemper, in far larger doſes, than ſometimes it would be proper to give in this diſtemper; therefore a leſſer quantity of the medicine may perhaps anſwer, ſhould it be more agreeable to the patient's taſte, to have it by way of infuſion in wine or ale. But the beſt form of all ſeems to be the powder of theſe ſimples, either taken by itſelf, or made up, with honey, into the form of an electuary; for the effects of theſe ſimples will be more gentle and laſting, when gradually diluted by the afflux of humours into the ſtomach, as well as by a draught of broth, or any other liquid above it, and thus, by imperceptible degrees, infuſing their medicinal virtues to the ſtomach and inteſtines.

But although the uſe of ſuch remedies, in this diſtemper, ſeems in general to be pretty ſafe, yet we cannot deny, but that in ſome particular caſes it has not been ſo ſucceſſful, and for this reaſon, that the gouty matter, not being deposited at the joints as uſual, has been driven into the ſubſtance of the *viſcera*; a remarkable inſtance of which was obſerved by the celebrated *Gaubius* ^r. A perſon, he ſays, about forty years of age, of a very bilious habit of body, had been long afflicted with the gout, though he lived always regular, and was in other reſpects healthy enough; and notwithſtanding the diſeaſe was not ſo very ſevere, yet wearied, and willing to get rid of it, took every day a doſe of the celebrated Portland powder, for the ſpace of about eighteen months, with this effect, that he kept altogether free from his uſual paroxyſm; but then a difficulty of breathing came upon him, and every day increaſed, ſo that in a few months after, he could hardly move a ſtep, without panting for breath; even ſpeaking increaſed the ſymptom: he had, beſides, a dry cough; his body looked pale and diſco-

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loured;

^r *Hollandſche Maatſchappye*, Tom. IV. pag. 308, & ſeq.

loured; a slight oedematous swelling was seen about his hands and feet, and under his eyelids; his tongue appeared white and dry; he was exceeding thirsty; had a full slow pulse; made a great quantity of clear, insipid urine, like water; his skin was dry, without perspiration or sweating; he had scarce any appetite, and slept but little; and though he could lie on either side, yet his head behoved to be raised: after having tried many remedies to little or no purpose, he at last died suddenly. In opening of his body, nothing was to be seen in the lower-belly, to which his preceding disorder or sudden death could any way be attributed. In each cavity of the breast was contained about twenty ounces of *serum*: about a third part of the lungs was of a natural softness and colour, and when cut through, some blood ouzed out; but the rest of the pulmonary substance, especially towards the inferior part, being of a whitish, collapsed, skinny appearance, contained within it several small tubercles, about the bigness of common peas, and when cut through with the largest incision, did not emit the smallest drop of blood, but upon a gentle pressure, sent forth some viscid, greenish-coloured *serum*. When the tubercles were opened, they contained nothing purulent, but a glary, thick matter, much a-kin to what is found sometimes in the gouty *tophi*.

From all which it seems reasonable to conclude, that the gouty matter, which formerly used to be deposited at the joints, was, by taking this antidote powder, discharged upon the lungs, and thus was the real occasion of his disorder and death; and therefore it is plain, that remedies of this sort cannot be administered with safety to all gouty patients indiscriminately. The antient physicians have long ago very judiciously remarked this verything. *Galen*^s,
where

▪ Method. medend. Lib. XIV. cap. 15. Charter. Tom. X. pag. 335.

where he is recommending such remedies, as are commonly given in arthritick disorders, for the cure of excessive fatness, says, *Multique, cum vel graciliores, vel mediocris habitudinis essent, ex ejusmodi medicamentorum potione perierunt, sanguine ipsorum excocto. Ruerunt autem ad ea propterea, quod liberatos aliquos articulariis affectibus viderant, minime astimantes quod temperies eorum, qui sanati fuerant, humidior, pituitosiorque erat, qualis nimirum obscuro est, in quibus hujusmodi medicamentorum securus est usus.* “ And many, of a moderate and slender habit of body, have lost their life by drinking potions composed of such kind of remedies, their blood being entirely dried up. But what hurried them to take them, was the seeing many in arthritick illnesses recover by their use; not at all considering, that the habit of those persons who had been cured, was more of a humid and phlegmatick kind: such, for instance, are most of your fat people, to whom medicines of this sort may be administered with great safety.” *Ætius*[†], recommending the *tetrapharmacon* afore mentioned, as a preservative against the gout, subjoins this caution: *Prodest pituitosis, biliosos autem lædit*: “ It is of great service to people of a phlegmatick habit, but hurtful to those of a bilious kind.” However, he describes a remedy much a-kin to the celebrated Portland powder, under the title of an antidote of the centaury^u, a drachm of which he gives every day in warm water, for forty days together; then every day of the remaining three hundred and twenty, which complete the year, he gives only half a drachm. *Est autem ex vehementer laudatis, et præter opinionem auxiliantibus quod ipsum experientia testatur: nam multos ejus usu servatis novi. Est enim adeo salutaris podagricis, ut quosdam, per quindecim annos podagra correptos, ejus usus ad iter pedibus faciendum præparaverit.* “ Yet it is to be ranked among the most celebrated re-

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medies,

[†] Serm. XII. cap. 47. pag. 352. ^u Ibid. pag. 353.

“ medies, and those that have performed the most
 “ extraordinary cures, as I, from my own experi-
 “ ence, can testify, having known many who owed
 “ their safety to its use entirely: for it is so very
 “ salutary to gouty people, that some, who have
 “ laboured for fifteen years together under this dis-
 “ temper, by the use of this medicine have regained
 “ the power of their limbs, so as to be able to per-
 “ form a journey.” But as to these, and such-like
 warming remedies, which are required to be taken
 for a great length of time, *Ægineta* ^w makes the
 following remark: *Qui vero per medicamenta quæ per*
annum bibuntur, morbum prorsus tollere voluerunt, mul-
tis sane, quibus pituitosus et excrementitius humor arti-
culis incubuerit, opitulati sunt: verum qui calidioribus
siccioribusque constarent naturis, hos in subitam mortem
præcipitaverunt, quod materia ad intestinum, aut renes,
aut costas, aut pulmonem, aut principem quandam par-
tem, se contulerit. “ Those, however, who attempt
 “ thoroughly to remove the distemper, by giving such
 “ medicines as are drank for a whole year together,
 “ will certainly do service to many, whose joints are
 “ infested with pituitous and excrementitious hu-
 “ mour: but as to persons of a hot, dry habit of
 “ body, these they will hurry on to sudden death,
 “ because the matter in these cases is forcibly dri-
 “ ven upon the intestines, kidneys, breast, lungs, or
 “ some other principal bowel.” *Aurelianus* also makes
 pretty much the same remark ^x.

It is therefore evident, that though the antients
 have highly recommended such remedies in the cure
 of the gout, as contribute to strengthen the powers
 of the *viscera*, yet they have at the same time sub-
 joined very judicious cautions, which, if they are not
 properly observed, and medicines of this kind are
 given in every case without distinction, the greatest
 mischiefs

^w Lib. III. cap. 78. pag. 58. versa.

^x Morb. chronic. Lib. V. cap. 2. pag. 563.

mischiefs may very often be the consequence. In the case of that person, whose history we have quoted from *Gaubius*, a prudent physician surely would not have advised the Portland powder, when he saw that he was of so bilious a habit of body.

For the sole end of giving these kinds of remedies is, that by restoring the powers of concoction, a smaller quantity of the gouty matter may be generated, or, when generated, be forthwith exhaled, before it has time to be deposited, or, as it were, immoveably fixed in certain particular places of the body. It was before observed, that persons long afflicted with an inveterate gout, are generally languid and sickly, through the whole year almost, and that any little health they enjoy is in the summer months alone; but *Sydenham* remarks^y, *herbas ejusmodi excalefacientes magnum omnino commodum afferre, cum sanguini æstatis calorem vel media hyeme concilient*, “that the warm kind of plants do mighty service, as they impart the summer’s heat to the blood in the very middle of winter.” Yet he says, that, *si æstivo tempore earum usui assuescamus, melius præcavebunt mala illa, quæ adversa tempestas solet apportare*, “if we accustom ourselves to their use in summer, we shall be better guarded against the inconveniencies of a severer season.” In another place he advises to renew the use of these remedies, during the intervals between each paroxysm, at the same time to let it be as far removed from the next-expected paroxysm as possible, because when the fit is well worked off there is but little matter remaining, and then they may be more safely given, with a view to hinder the accumulation of the matter, by fortifying and strengthening the viscera. For *Sydenham*^a was far from expecting that the gouty matter, when once accumulated,

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could

^y Tractat. de podag. pag. 575.^a Ibid. pag. 576.² Ibid. pag. 567.

could, by these remedies, be either corrected, or more successfully deposited at the usual places, *quandoquidem materiæ continentis eliminatio naturæ omnino opus est, sua ipsius methodo peragendum*, “seeing the
 “elimination of the contained matter was the
 “work of nature entirely, and therefore by her
 “own method alone was it to be performed:” and advises, at that particular time, strictly to avoid all heating aliment, or such medicines as are apt to inflame the humours.

But since old persons, and those who are advanced in years, are more frequently afflicted by this distemper; and as that time of life can bear the use of warm remedies better; to such, therefore, they may be given with greater safety. In the vigour of life, and in such as are of a warm, sanguineous, or bilious habit, there is more caution necessary; and prudent physicians usually prescribe remedies of a milder kind, lest they should add fire to flame, and by that means put the whole body in commotion. Whence also *Lobb*^b, recommending the moderate use of wine and spices, such as cloves, mace, &c. as a preservative against the gout, by increasing the force and firmness of the heart and arteries, when feeble or languid, adds, *ut sæpe fit in specie in corporibus podagra affectis, sæpeque semper in iis qui ex habitu corporis friguriunt, quorumque caro flaccida, vasque nimis laxa sunt*, “as frequently is the case, in some
 “sort, with gouty constitutions, and almost always
 “so with such as are of a chilly habit, and those
 “whose flesh is flaccid, and whose vessels have too
 “great a degree of laxity.”

β. It was before shewn, at §. 1263. that in this distemper, the finer liquid became faulty, in being either too acrimonious, or too viscid: whatever, therefore, had power to attenuate this viscosity, must be in this case very proper, most of all so, if at the

^b De calculo & podagra, &c. cap. XXI. pag. 252, 253.

the same time, having no effect in augmenting, it rather serves to diminish, or entirely correct, the acrimony that accompanies this same viscosity. But seeing the improper use of acids, as was said, §. 1255. have been justly numbered among the causes of the gout, the reason is plain, why lixivious and alkaline salts have acquired so much reputation in the cure of this disease: whence our celebrated author says, *utique illa podagræ species, quæ acido nimio ortum lebet, forte vix curatur felicius, quam parco hujus salis, sed diu protracto, usu*, “ that the kind of gout, which is produced from too great a quantity of acid, cannot perhaps be more successfully cured, than by this salt, taken in small doses, and long continued:” for then it dissolves the tenacity, and also takes off the predominating acrimony. In the meantime, however, as all our humours tend naturally towards putrefaction, and so much the more indeed, the higher degree of elaboration they have gone through, the gouty acrimony therefore is not always of the acid kind. The chyle moving along with the blood in the vessels, and being separated in the breasts, obtains the name of milk, which spontaneously turns acid; but continuing to be further circulated through the vessels, it is at length, by the repeated action and influence of the *viscera*, so changed, as to have no longer any tendency to become acid; but having thoroughly acquired the disposition of the other humours, tends naturally, in the same manner, towards putrefaction. But as the gouty acrimony was thought to be joined to that highly-refined fluid, after it had undergone the last degree of elaboration, (see §. 1265.) it does not appear at all likely, that this acrimony belongs to the class of acids; especially when a diet of the acescent kind is known to be so often beneficial to gouty people, as shall afterwards be shewn.

N 4

We

We are, however, to take notice, that in the gout, a fault may lie in the indigestion of the *viscera*, they not being able to assimilate what is taken down by way of aliment, to the nature of our fluids; and thus the acrimonious acid of our food cannot be so properly diminished and weakened, or yet so thoroughly subdued by the admixture of sound, perfect, animal humours, as commonly it is in the highest degree of good health. But though this depravity of the humours is of a nature so light and subtle as not to affect the larger vessels, yet in the smallest it may do considerable harm, especially when that, which before was dispersed, comes now to be collected, and begins to fix itself in certain parts of the body. It is however certain, that this acrimony, arising from an imperfect concoction of acid and acescent aliment, is by no means so universal a cause of the gout, as some would maintain. Whence the celebrated *Boerhaave* *, to the praise he bestows upon the fixed salts, prudently subjoins the following: *Non tamen vel ideo universale antipodagricum statim laudari debet, qui nocet podagricis acriter biliosis, quorum humores jam sponte in alkali putridum vergunt*: “ Yet, notwithstanding this, we are not to cry it up
 “ all at once as an universal antidote against the
 “ gout; for it is of the utmost prejudice to persons
 “ of a very bilious habit, whose humours already
 “ tend to an alkaline putrefaction.” But when a physician carefully attends to the nature of the disease, the antecedent causes, and the present condition of the patient, he will not so easily mistake in determining the utility or disadvantage of these remedies.

Fixed alkaline salts are certainly very acrid, inso-much as, when applied to the skin, to erode it, and produce gangrenous crusts *. But they are still more so, in proportion as they undergo a fiercer degree of heat,

* *Elem. chem. Tom. II. pag. 59.*

* *Ibidem, pag. 54.*

heat: whence a milder kind may be exhibited, such as those prepared after the method of *Tachenius*^f. When, for instance, the green plants are burnt to a deep blackness, not in a blazing, but in a smothered heat, and then being put into an open fire, begin to sparkle without flaming, and are converted into ashes; these, when boiled in water, yield a brownish sort of alkaline salt, which is much milder, indeed, than that which is procured from the ashes of plants burnt in a strong flaming heat.

Hence too appears the reason, why small doses, and a long-continued use of these salts, are so much recommended, as acting, no doubt, with a gentle dissolving power, and attenuating every kind of viscidities, yet not with so great a degree of acrimony as to occasion any harm: therefore, when prudently used, they may be of service, even in cases where there are no apparent signs of acrimonious acidity in the humours, especially seeing we learn from the experiments of the celebrated Dr. *Pringle*, that putrefaction is not so much forwarded by these salts, as indeed we formerly imagined.

Among this class of remedies in the *materia medica*, the *alcalhest Glauberi* stands much recommended, which is nitre, converted into an alkaline salt, and dissolved, *per deliquium*, in the open air, commonly known in the shops by the name of *liquor nitri fixi*; and the safest method of exhibiting this, is by giving a few drops in some veal broth every morning. Another remedy of this kind is prepared from broom-ashes, infused in Rhenish wine; half an ounce of which liquor is to be taken every day, in the morning. The broom-ashes contain an alkaline salt, but the acid of Rhenish wine breaks the force of the alkaline acrimony, and both united constitute a kind of *tartarus regeneratus*, whose mild nature and great dissolving power is so well known to every

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^f Ibid. pag. 48.

one: whence, if a physician should have the smallest scruple, lest the alkaline acrimony prove injurious, he may always use this medicine with the greatest safety.

Hoffman^s says, that he has observed very great relief in the gout, from the use of absorbent earths and lixivial salts, and particularly in cases where the acid vomitings prevailed: he therefore greatly recommends to gouty people the use of the Caroline baths, which contain a considerable quantity of alkaline salt.

γ. As the proximate cause of this disease (see §. 1265.) may depend upon the powers of the *viscera* being too weak to digest and assimilate the aliments, and seeing it is certain, that some aliments require the action of the strongest *viscera* to subdue them, whilst others again, by a far less degree of vigour in the bowels, may be so changed, as easily to acquire the disposition of our fluids; it is therefore very evident, that great regard ought to be had to a proper diet, in order to promote the alleviation, or even cure of the distemper: whence all physicians have recommended mild, light food, of easy digestion, and liquors of the same nature, that nothing acrid might be taken down, and also by way of caution, lest any greater degree of acrimony should be generated in the humours of the body, by a spontaneous depravation of the aliment.

Many place so great confidence in a vegetable diet alone, as to exclude from the table all kind of animal food whatever. The celebrated *Lobb*^h mentions some cases, where, by the sole use of such a diet, the patients not only kept free from the gout, but their gouty tophous swellings, wearing gradually away, at length entirely disappeared. Yet they were sensible of many inconveniencies upon their first entry

^s Med. rat. & system. Tom. IV. part 2. sect. 2. cap. 11. pag. 548.

^h De calculo & podag. &c. cap. 20. pag. 215, &c.

ry on this kind of diet: their flesh fell away, and
 heir strength was very much weakened; and after-
 wards, notwithstanding they abstained entirely from
 wine, yet, if they tasted ever so little of flesh-meat,
 of whatever sort, they were sure to have a return of
 the disorder; insomuch, indeed, that in one case
 particularly it seized on the patient's left hand and
 wrist, went down to the elbow, and four days after,
 laid hold on both his feet, and for seven days and
 nights the pains continued intense, and extremely
 violent. Whence we see, that although the gout may
 be lulled asleep a long while, yet a change of diet
 brings back the paroxysms with all their severity.
 From a consideration of all which particulars, the
 sagacious Sydenham concludes, *alimentum vegetabile*
per se non tantopere nutrire, atque roborare, ac mixtum
cum cibo animali, adeoque victum animale non solum
*quandoque proficuum, sed et omnino necessarium esse*¹;
 "that a vegetable diet, by itself, is not so nourish-
 "ing and strengthening, as when mixed with some-
 "thing of the animal kind; and therefore animal
 "food is not only sometimes beneficial, but entirely
 "necessary:" for the strength must be supported,
 for the sake of performing bodily exercises, which
 greatly contribute to getting the better of this
 malady, as we shall afterwards shew in a follow-
 ing section. At the same time it would appear,
 that a vegetable diet does not by any means remove
 the predisposing cause of the gout, seeing that, upon
 a change of living, the distemper returns: how-
 ever, it seems to weaken the force of the morbid
 matter, as the paroxysms are either altogether di-
 verted and soothed away, or, should they return, they
 are neither so severe, frequent, nor lasting. But per-
 haps it may be asked, whether the gouty disposition
 itself, or character, as *Helmont* calls it, can be entirely
 destroyed by a long and determined course of this
 kind

¹ Ibid. pag. 222.

kind of diet? Certainly the examples we have already mentioned above are strong proofs that some have regained entire health, merely by being reduced to suffer the hardships of poverty, and by daily labour, to gain a spare sustenance, consisting almost wholly of vegetable fare. We read of another instance of the same kind ^k in a man, who, being cast into a filthy prison, subsisted nineteen years on bread and water alone, and lived afterwards in good health, and entirely free from the gout, with which he had been used formerly to be afflicted at a cruel and terrible rate.

We rarely find persons who have the resolution, or indeed are really able, to go through a course of this sort of diet for many years. And seeing the greatest part of gouty people live high, giving too liberal an indulgence to all their appetites, a change of this kind, so sudden, may be attended with some degree of danger: whence Lobb^l very judiciously advises those, who have a mind to try this method, *ut non subito aut semel, sed per gradus, id faciant; gradatim minuendo quantitatem cibi animalis singulis hebdomadibus, concedendo sibi tempus trium mensium, ut, post hos demum elapsos, ad totalem a cibis his abstinentiam perveniant,* “not to begin it suddenly and all
 “at once, but by degrees to lessen the quantity of
 “animal food every week, by little and little, al-
 “lowing themselves, for this purpose, three months
 “time, that when these are elapsed, they may bear
 “a total abstinence from all kinds of that sort of
 “food whatever.” Whence also he advises people, who cannot by any means abstain altogether from flesh-meats, in this disorder, at least to diminish the quantity considerably, and by degrees, so as to come at length only to take about eight, six, or four ounces of flesh-meat to dinner, till such time as vegetables shall

^k Ramazzin oper. pag. 478.

De calcul. & podag. cap. 22. pag. 279.

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shall compose the greatest share of their nourishment.

We may therefore conclude, that a diet of vegetables is of great service in this distemper, however patients may not sometimes be either really able or willing to subsist on it alone. It has been, indeed, observed in the very worst and most inveterate case of the gout, that a plentiful use of melons and other summer fruits has not been attended with any harm; *constans potius docuit experientia, horum usu æquo et ad palati desideria demenso, numquam non temperatos fuisse sanguinis fervores, indeque pendentem perspirationis excessum* ^m; “constant experience rather proving
“that such things moderately used, and proportioned to the eagerness of the patient’s appetite,
“never fail to allay the fervour of the blood, and to
“restrain the excess of perspiration depending on
“that symptom.”

Sydenham, from the experience he had in himself, as well as from what he had observed in others, with respect to diet, has given us very good regulations. Two things he warns us to avoid: these are, first, the cramming down a load of victuals, which, as they cannot be properly subdued by the stomach, must occasion those crudities so much to be apprehended; and in the next place, he condemns too strict a kind of diet, which, by weakening the strength, does as much harm in another way ⁿ. However, although he allows that some meats are to be preferred to others, as being of easier digestion, yet he rightly advises, that particular regard be had to the patient’s taste and liking; it being very certain, that things, to which they have a strong inclination, are by them much sooner and easier digested. Thus it is plain, that some regard must be had, even here, to custom and habit; but as to this particular we have already
said

^m Hahn histor. podag. &c. pag. 9.

ⁿ Tractat de podag. pag. 578, & seq.

said enough, where we treated of fevers. In the mean time, should the patient's appetite give him strongly to things of more difficult digestion, all we are to do, is to allow him a smaller proportion. At the same time Sydenham recommends only one species of flesh-meat at a time, *cum varia carnum genera, simul ingesta, plus ventriculo molestiæ facessunt, quam unicum quod omnia ista quantitate exæquet*, "as different sorts
 " of flesh-meats, taken down at a meal, occasion
 " more disturbance in the stomach than any one
 " kind by itself, though in quantity it should even
 " equal all the rest put together." Besides, it often happens, that a variety of dishes provokes the appetite even beyond satiety, especially when that hunger, which had already been sufficiently appeased, is again stimulated by the relish, which a skilful learned palate finds in sharp, salt, and high-flavoured seasoning. Hippocrates has said, *Est autem ejusmodi prava victus ratio: primum quidem, quum quis copiosiores cibos, aut liquidos aut siccos, exhibeat quam ipsum ferre possit, neque laborem ullum ciborum copię opponat: deinde quum varios et dissimiles inter se cibos immittat: dissimilia enim seditionem excitant, et alia citius, alia tardius, concoquantur*. "But the method of this kind
 " of diet may be bad two ways: first, when any
 " one allows the patient to take down more meats
 " than he can bear, without balancing the quantity
 " of victuals with a due proportion of bodily exercise; and then, when he throws down various
 " kinds of meats, quite different in their nature from
 " each other: for things opposite in their nature
 " occasion much commotion in the stomach, some
 " being sooner, and others more slowly digested." Since, therefore, labour and bodily exercise, as we shall presently shew, are of so much benefit to gouty people, a requisite degree of strength for that purpose ought always to be kept up by a proper nutriment:

ment: hence too delicate and choice a diet may rather prove hurtful. They are, therefore, to be contented with plain food, abstain from too great a variety of dishes, and eat only what hunger requires. It would be well too if, according to what has been already said, the quantity of mild greens and ripe fruits should exceed what is taken from the animal classes. Sydenham^p enjoins gouty people to content themselves with a dinner only, and, in place of supper, to take a plentiful draught of very small beer; that is, if they are accustomed to this sort of liquor; with this view, in particular, to prevent calculous concretions in the kidneys, to which gouty people, by reason of their being long confined in a lying posture, are very much subject: for the urine, by thus drinking largely of smaller thin liquors, is secreted in greater abundance, and washes away every thing which is ready to harbour about the kidneys.

Milk, *omnium rerum quas cibi causa capimus, liquentium maxime alibile*^q, “of all liquids that we take by way of sustenance, the most nourishing,” has been much extolled in the cure of the gout. It is an aliment of a middle nature, as it were, between the animal and vegetable kingdoms: it contains a soft oil, which, when freed from the other parts, is called butter; a thin *serum*, or whey, which spontaneously turns sour; and the cheesy part, which, when well separated from the rest, comes nearest to the nature of an animal substance. Milk certainly has in it every quality requisite for nourishing, and yields a very useful and proper nutriment to infants and weakly people, for this reason, because it is no other than the chyle of a healthy animal, so far elaborated by the *viscera* and vessels, as to come nearer to the nature of our own humours. It is certain, there are number of cases, where a milk-diet has been of great service to
gouty

^p In loco modo citato.

^q Varro de re rustica, Lib. II. cap. 12. pag. 302.

gouty people, so much indeed, as even to keep them entirely free from all paroxysms, when they continued strictly to live on it alone. But yet we don't find it sufficiently powerful to destroy the latent predisponent cause of the gout itself; for a milk-diet is then only of sovereign benefit, *quamdiu ne latum unguem ab ea discesserant: quamprimum vero ad dietam sanorum, ut-ut levem mitemque, se receperit, qui huic insueverat, podagra confestim reversa, ægrum longe pejuss quam antehac, vexavit*^r, “ when the patient deviates
 “ not in the smallest particular from a strict adherence; for the moment any one, who is once
 “ accustomed to this, partakes in the least of the
 “ diet of other healthy people, be it ever so mild
 “ and light, the gout returns immediately, and afflicts him with much more severity than ever; because this soft milk-diet, requiring only a slight degree of strength in the bowels to digest it, enervates the force of the chylopoietick viscera so much that when they return to the food of other people the solid meats cannot be so easily subdued, and of consequence the gouty matter must be accumulated as we have already seen at §. 1265. for few have resolution enough to keep steadily to a milk-diet through the whole of life. Besides, if they had all the inclination imaginable, there arises sometimes so great a dislike and loathing of milk, that they are forced in spite of themselves to leave it off, as Sydenham very well remarks^s, and I myself have sometimes had occasion to see. Whence the celebrated Mead warns old people in particular, and such as have gone through a great many fits of the disease, against attempting a strict diet of milk and greens; for he has observed, that *his, si non omnino invadit morbus pro articulis præcordia infestentur, crurumque insuper robore destituti vitam sæpe in reliquum miseram transigant*, “ in
 “ such, if the gout kept entirely off, in place of the
 “ joints

^r Sydenham de podagra. pag. 579.^s Ibid. pag. 580.¹ Monit. & præcept. med. pag. 202.

“ joints, the parts about the *præcordia* were sure
 “ to be infested; besides, they lost all power in
 “ their limbs, and passed the rest of their life gene-
 “ rally in a miserable condition.” But young per-
 sons, he thought, who had suffered only two or three
 paroxysms, might try something of this sort; though
 he principally recommends it to those, in whose fa-
 mily the distemper has been hereditary; nor even
 to them does he recommend a very strict diet of
 milk only: he orders them indeed to abstain from
 wine and ale, to drink only water to quench their
 thirst, and to eat of milk, or white meats made of
 milk; but then, once a day, he allowed them flesh-
 meat, and sometimes fresh-water fish, to stay the
 craving of their stomach, as water-drinkers common-
 ly have such a craving. By this manner of living,
 he says, he has seen several arrive to a very healthy and
 pleasurable old age: and the same effects, from a
 moderation of this kind, I myself have also seen, in-
 somuch, that the patients were either entirely free, or
 touched only with a slight paroxysm once in two or
 three years. The same kind of diet is also recom-
 mended by *Coste**, the utility of which he had ex-
 perience in his own case.

Notwithstanding there are very many authors who
 recommend water alone for common drink, yet all
 are not of the same opinion with regard to a strict
 observance of this regulation, though every one is
 agreed, that a life of sobriety must be observed, in or-
 der to hope any considerable relief from the distem-
 per. Very many, without doubt, after a hard, exces-
 sive drinking-bout of wine, have been attacked by
 the distemper: whenever these persons, however,
 have been all at once condemned to the use of water,
 it is seldom long of proving fatal to them, as *Syden-
 ham*† very well observes. Whence, notwithstanding

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* *Traité pratique sur la goute*, pag. 86, & seq.
 † *Traité de podagr.* pag. 582.

he thinks wine hurtful in the gout, and says, *cum universa corporis substantia in podagram quasi degeneraverit, minus, quam exoptet, in profligando morbo promovebit, qui non a liquore fermentato quocunque, quantumvis leni et tenui, in totum abstinet*; “in cases where
 “the whole body was converted, as it were, in-
 “to a gouty substance, he never obtained any de-
 “sirable advantage over the distemper, unless the
 “patient entirely abstained from all fermented li-
 “quors, whatever, not even the smallest and mildest
 “to be excepted:” and here, too, he acknow-
 ledges there is great judgment requisite, as much
 harm may be the consequence of so sudden a change.
 Water agrees well enough with those who have
 been used to it from their infancy; not so with
 others: hence Sydenham says, *Aquam puram crudamque, et periculosam existumo, et expertus sum meo damno*:
 “Raw simple water I think dangerous, as I myself have
 “experienced, to my own hazard and disadvantage.”

For ordinary drink, therefore, he recommends
 those liquors as the best, *qui neque ad vini generosi-
 tatem ascendunt, neque ad aquæ debilitatem deprimuntur*,
 “that did not come up to the richness of wine, and
 “yet were as far removed from the weakness of
 “water.” For this reason then, when he recom-
 mends plenty of thin drink to gouty people, to
 free them from nephritic concretions, he advises
 them to take a large draught of small beer in place
 of supper, as we have mentioned already. But see-
 ing water alone could not be drank in any great
 quantities, by people not accustomed to it, he or-
 dered such liquors in their stead, *qui neque vel in
 maxima copia assumpti inebriare possunt, neque frigore suo
 ventriculum lædere**, “as could not intoxicate when
 “taken in the greatest quantity, nor hurt the sto-
 “mach by their coldness.” The smaller sorts of beer
 or wine, diluted with a great deal of water, may
 serve very well for this purpose, having always, how-
 ever,

* Tract. de podag. pag. 583.

y Ibid. pag. 582.

ever, a regard to habit, as a person is accustomed to this or that kind of liquor. Such kinds of beer, as, after a complete fermentation, have the flavour of wine, and yield an ardent spirit by distillation, intoxicate in the highest degree, and when given to gouty people are very pernicious. But the kind of beer we here speak of, is mild to the taste, clear, without sediment, and never intoxicates: this I never saw hurt gouty people in the least, especially if they had been accustomed to it formerly. Some commend ale made of wheat: others again think that which is prepared from barley or oats preferable. Different countries prepare different sorts; nor is there much difference to be observed in regard to their wholesome qualities, providing they are small, mild and clear, and have no power of intoxication, so that they may be taken with safety in pretty large draughts. *Hippocrates* every where recommends the use of barley ptisan, as the most salutary for sick people. Barley, suddenly dried, after it has begun to germinate, then ground to meal, is afterwards put to infuse in boiling water: when this infusion, after a little boiling, is put into casks, and by fermentation has sufficiently worked off all impurities, it obtains the name of beer.

Nevertheless, when the gout becomes inveterate, *Sydenham* advises then to discontinue the use of wine and beer entirely, and to take a diet-drink, *ex radicibus sarzaparillæ, chinæ, ligno sassafras, glycyrrhiza, &c.* “of the roots of sarzaparilla, and china roots, sassafras and liquorice, &c.” according to which rule, many other diet-drinks of the like nature may be prepared, which all agree in this, to join something mild and aromatic to a great quantity of water. *Sydenham* also advises the patient to begin this diet-drink as soon as the fit is over, and to continue it during all the rest of his life^z: at the same time he hoped to derive this advantage from a drink of this

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^z Tract. de podag. pag 585.

kind, to wit, that any little errors committed in the rest of the diet would not prove so hurtful to the patients, as when they continued to make use of wine or ale: and though the diet-drink might not at first be so pleasing, yet when they came, by degrees, to be accustomed, they would then like it better than any drink whatever. But should a languor and weakness of the stomach require it, a small glass of generous mild wine may be allowed just when dinner is finished, such as sherry, tokay, or the like.

δ. The principal aim of all that has been just now said, is to procure good sound chyle, from what is taken down by way of aliment in meat and drink, by means of the action of the chylopoietick *viscera*: which chyle, however, is of a nature very different from that of the blood, and at still a greater distance from the perfection of that exceeding highly elaborated fluid that is to pass through the smallest vessels of all, and from the depravation of which, as we have already said, § 1262, 1263, 1265, the gout is originally produced. But physiology demonstrates that this chyle, by circulating along with the blood through the *viscera* and vessels, and especially by the action of the lungs, may be so changed, as at last to be assimilated to any fluid of the body.

Now, in bodily exercise, the muscles, being in action, accelerate the motion of the venous blood: hence the contractions of the heart are stronger and more frequent, as also the pulse and respiration are in like manner increased; and therefore all forces, concerned in assimilating the chyle to the healthy humours, act more strongly in a given time, than when a person is at rest: all the secretions and excretions are forwarded, and therefore all things are disposed in a manner most conducive to health; and hence the reason why physicians, not only in the gout, but also in other chronic diseases, recommend so much a wholesome bodily exercise: neither is the motion of the body
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of service in sanguification only, but in preparing the chyle likewise; for the pendulous *viscera* being in constant agitation, and alternately pressed by the action of the diaphragm and abdominal muscles; the secretions of the gastric, pancreatic and intestinal liquors, together with both sorts of bile, are all by that means increased: whence those who are accustomed every day to hard labour, eat every thing that is offered, and digest it easily; while those who are sunk in lazy indolence and ease, are distressed even by the lightest food, and are perpetually complaining of flatulency. Nor is it sufficient to take exercise only at intervals: as a motion of this sort is almost perpetually necessary, it ought to be followed every day.

But seeing the gout most commonly afflicts persons in advanced years, old people ought by all means to strive against their usual aversion to stirring, if they would enjoy any considerable relief from their disorder; for if they don't resolutely endeavour at this, their joints through years, joined to the malady, grow exceeding stiff, and are rendered at last altogether incapable of motion. And Sydenham^a warns all old gouty people, *quod nihil minus sperandum est, quam ut morbus sine exercitio ad digestionem perducatur unquam: cum enim morbus naturam viribus superet, sæpe moriuntur a languore atque ægritudine, quæ fomitis morbofi copia concoctionem respuentis apportat; et ab hac materia incoctili, quæ nullo modo potest assimilari, tanquam a veneno enecantur.* “That nothing is less to be expected, than that the disease can be brought to a proper concoction without exercise: for the strength of the disease being much more than a match for nature, they often die with languor and sickness, occasioned from a redundancy of morbid *fomes* that never can be properly subdued: from this indigestible matter then, which can by

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^a Tractat. de podag. pag. 596.

“ no means be assimilated, they are worn out and
 “ destroyed, as it were, by a slow poison.” This
 bodily exercise, however, to be taken every day,
 must be proportioned to the strength and age of the
 patients, otherwise they may be debilitated with too
 much fatigue: whence riding is recommended as
 preferable to all others; because, to those who are
 accustomed to it, it is the least fatiguing of all exer-
 cises, but particularly salutary when performed in a
 pure open air: this we have taken notice of before,
 at § 1210. But where there is no opportunity of
 riding, a carriage of any kind may be substituted;
 though it will not, probably, be attended with so
 much benefit. Besides this, the movement of the
 particular parts that were formerly pained, contri-
 butes greatly to hinder the joints from stiffening,
 which is a very common complaint in an invete-
 rate gout, and is very difficult to cure. Whence
Aurelianus^b gives the following admonition. *Arthri-*
ticis vero convenit, etiam digitis ceram emolliendam dare,
vel manipulos tenendos, quos palestritæ ἀλτήρας appellant,
tum movendos cereos, vel ligneos primo, cum parvo
plumbo interfuso, tum pro modo profectus graviores, &c.
fit igitur primo gestatio pro modo virium, tum deambula-
tio molli stramine coæquato solo, adjecto vocis exercitio
cum corporis unctione. “ In arthritic disorders, ’tis
 “ of great benefit to give the patients a piece of
 “ wax to work with their fingers into a softness, or
 “ to make them grasp such plummets in their hands,
 “ as the dancers call ἀλτήρας, moving these waxen
 “ or wooden pegs with the addition of a little lead
 “ at first, making them heavier in proportion to
 “ their advancement in this exercise, &c. in the
 “ same manner, let their airings in a carriage be at
 “ first proportioned to their strength; then they may
 “ take to walking on a place laid over with soft straw;
 “ and

^b Lib. V. cap. 2. pag. 561.

“ and while they take care to anoint their body, let
 “ them also exercise their voice.”

From this it is plain he foresaw, a stiffness of the joints might well be apprehended from too much rest, and therefore joins to that of walking the exercise of the voice, in order to strengthen the action of the lungs. At the same time it is understood, that all these efforts are to be made while the paroxysm is not as yet entirely gone off, but even where there may yet remain a little pain, though not very severe: for he begins with the gentlest motion at first; then he prescribes walking on a way laid over with soft straw; and for the greater ease to the patient, he would have no shoes on the feet. This is also confirmed by *Ægineta**, who ἐν ταῖς παρακμῶν, in cases of debility, upon the pain being lessened or not thoroughly gone off, advises exercise and friction, particularly about the joints. And this is still farther supported by the authority and experience of *Sydenham*, who earnestly recommends it to gouty people, that they make attempts, stir and walk about, even although their joints should be a little pained, as we have already mentioned.

Frictions are of remarkable utility when applied to the parts that have usually suffered during the paroxysms of the gout: we have already more than once taken notice of their great efficacy in dissolving obstructions in the Chapter of Obstruction, and where we discoursed on contusions, besides several other places. From repeated trials I am certain, they have always procured considerable relief, whenever the patients could be prevailed upon to practise them morning and evening, and particularly about the feet, where the disease most frequently makes its attack. That the simpleness of the remedy might not bring it into contempt, I have ordered the woollen clothes to be well charged with the

* Lib. III. cap. 78. pag. 58.

fumes of some aromatic, or have even applied at the same time some soft ointment; yet, to confess the truth, I have observed the same effects produced from simple friction alone, practised morning and evening every day for a quarter of an hour together; for by this means the parts were strengthened, and any collected morbid matter, that began to fix itself, was dissipated entirely. *Ætius*^d gives the highest commendation to friction, as the greatest preservative against the gout, and orders it to be administered, *non quidem tempore inflammationis, et doloribus instantibus, sed cum hæc remittunt*, “not indeed during the severity of the pains and inflammation, but when these are in some degree abated.” He recounts, however, the following salutary effects. *Om-nibus enim, qui hoc modo fricantur, insitus calor augetur, et quod præter naturam est discutitur, recrementaque consumuntur, & affecta membra fiunt robustiora, & adversus affectionem firman-tur, minimeque ei obnoxia redduntur, maxime si diligenter singulis diebus, mane et vesperi, ubi dolores quemadmodum dictum fuit, remiserint, per omnem vitam hoc præsidio utantur.* “For all those, who use friction in this manner, will find their vital heat increase, any redundancy beyond nature shaken off, all useless recrements worn away; the parts affected will become stronger and better fortified against the disorder, and far less subject to it for the future; especially if, when the pains abate, as hath been observed before, they carefully put in practice this salutary caution, every day, morning and evening, through the whole of life.” As to the ointment for the parts after friction, *Ætius* employed a little oil very well mixed up with some salt; but, as I said before, the greatest efficacy, in my opinion, is to be ascribed to the friction alone. I prescribed this preservative to a gouty patient, who thenceforward, every morning and evening, in putting

^d Sermon, XII. cap. 21. pag. 314.

ting on and off his shoes and stockings, used heartily to rub his feet and legs, till at length it grew so habitual, that without thinking, and as it were with an automatic motion, he performed these frictions as long as he lived: and notwithstanding he was not very strict in keeping to the rules of diet, indulging sometimes a little too freely, yet he had only now and then a paroxysm of a slighter kind, and at considerable intervals; preserving always the flexibility and suppleness of his limbs, and thus could exercise his body with the greater ease. *Philagrius*^e did not scruple to affirm that he was confident, *quod solæ frictiones sufficiant his, qui etiam maxime diætam delinquant*, “that frictions alone would answer very well with those who were even very negligent with respect to the rules of diet.”

Much more, however, is to be hoped from a strict regard to the rules of living; concerning which enough has been already said.

ε. It appears from physiology †, that during sleep, the motion of the arteries, veins and heart, are stronger, slower, and more equable, while at the same time, the breathing is deeper fetched, slower and more uniform. But it is through their means that the blood acquires that perfection requisite to a thorough concoction, as the motion of the humours becomes quicker through the sanguineous vessels, and such as are nearer the heart; but slower through the lateral branches, and those more remote from the same. Now it is evident, that the assimilation of the crude part of our food is performed in the larger vessels; whereas it is in those others, that the chyle is perfected and elaborated, so as to acquire entirely the nature and disposition of our finest humours. Since therefore, during sleep, the action of the heart and larger vessels is increased, and at the same time

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^e Sermon. XII. cap. 21. pag. 314.

[†] H. Boeth. instit. med. § 590.

respiration grows stronger; there is no doubt but, at this time, the most powerful transmutation will be going on, and that which is crude will be changed into what is thoroughly concocted, and thus produce the most perfect assimilation; on the deficiency of which the proximate cause of this distemper, in a great measure, depends, as hath been shewn at § 1265.

But excessive watching and midnight revels have been formerly mentioned also among the causes of the gout: whence it appears how necessary sleep is to gouty people, in refreshing the body, and supplying strength requisite to go through their daily exercise. For this reason *Sydenham*^s earnestly advises gouty people to go to bed by times, and to rise early in the morning; for, however we may allow the same space of time for sleep, yet, as to the effect, there is a good deal of difference, whether one lies down betimes in the evening, and indulges in seven hours rest, or keeps awake till midnight, and passes a proportional part of next day in sleeping. This, even robust and healthy people are sensible of, when they spend the day in sleeping, after late dancing and revelling: for though they have lain in bed a longer time than usual, yet they rise from this length of sleep, rather fatigued and heavy, and hardly are able to go about their ordinary employment.

But seeing men of learning, and those of chief eminence in the affairs of government, are so often tormented by the gout, it ought to be a rule with them to dispatch all important business in the morning; taking care, however, to reserve two hours or so before dinner, to be employed in bodily exercise. The hours after dinner let them dedicate to walking or riding out, or to the agreeable conversation of their friends; but in the evening they must not at all be concerned in any business that requires the least stretch of thought or attention.

By

^s *Sydenham. Tractat. de podag. pag. 587.*

By this strict regularity of living have I seen a very inveterate gout rendered so mild, as only with a few short paroxysms, far from being severe, to make itself to be just remembered, as it were, by the patients, who, before they died, had all reached to a good old age.

Very few can long bear to adhere strictly to a vegetable and milk diet alone, without any kind of animal food whatever; yet to this last regimen any one may. But when the disease is not as yet become inveterate, nor the body entirely enervated with surfeit and gluttony, there may even hopes arise of a thorough cure. *Dabit enim curatio aliis integram sanitatem, aliis raram doloris admonitionem, ne jugi superpositione vexentur*^b. “For this method of cure
“ will give to some entire health; to others a painful admonition only now and then, not to irritate
“ them by continual overloading.”

It will be prudent in the physician, to be cautious how he promises a complete cure, especially if the disorder is of long standing, and the ages of the patients are somewhat advanced; for if they feel the slightest paroxysms after such promises, they are rendered altogether untractable, and despising the injunctions of the physician, rush headlong into their former irregularity, despairing entirely of any substantial relief from the distemper, which a physician might very well engage to give, had these patients been willing to observe the rules recommended in this paragraph.

^b Cæl. Aurelian. Lib. V. cap. 2. pag. 562.

S E C T. MCCLXXVI.

TO the second, (1274.) will be useful,

1. Long-continued and small doses of any volatile salt, taken in the morning some time before rising, with a large draught of some softening apozem, and thereby promoting a gentle breathing sweat for about an hour together.
2. Warm frictions with dry cloths.
3. Drastring or watery purges, quickened with mercurials, and adding, towards night, an opiate quieting draught.

At § 1274, it appeared, that the method of curing the gout consisted of two parts: the first of which was, to endeavour by a proper diet, and by increasing the strength of the *viscera*, to prevent the morbid matter from being accumulated either too easily, or in too great quantity; both which have been handled in the preceding paragraph. The other part of the cure is to be directed to this end, namely, to expel with safety that morbid matter which begins to be collected and accumulated in the body, before it has time to produce a new paroxysm; or if that cannot be entirely obtained for the present, the quantity of matter may at least be so far lessened, as to occasion only a slighter degree of the disorder.

For, notwithstanding all these things, recommended in the preceding paragraph, may be resolutely put in execution, yet we are not to expect that a thorough and perfect assimilation will immediately take place; and therefore some little depravity will as yet remain, more especially in the finest fluids, which are produced from the most perfect degree of elaboration.

But

But this morbid depravity circulates along with the rest of the humours, and when greatly increased in quantity, or rendered still more malignant by stagnation, begins to disturb all the functions of the body, and by that means gives evident signs of an approaching paroxysm, as has been observed at § 1257. That this morbid matter, however, may sometimes be drawn out of the body, at least in part, is clear from what has been said at § 1261: for just before the paroxysm, an acrid phlegm rushed down upon the *fauces*, and the eyes were irritated by an uncommonly acrid and copious afflux of tears. It was remarked at § 1272, that this acrid matter descended sometimes into the intestines, and there produced a dysentery. From all which it is plain, that attempts, by the rules of art, to draw off this morbid matter circulating through the vessels along with the humours, are by no means impracticable. When the matter, however, stagnates and fixes at the places where it used to be deposited, in producing a paroxysm; this cannot then be done with so much safety, as we have remarked already at § 1273, and which shall be farther explained at § 1281. But we may attempt to draw off this matter by the following methods.

1. As the gouty matter, collected in the joints after the abatement of the pain, passes by sweat out of those places which it occupied, as has been explained at § 1261, we may reasonably hope to expel it by the same passages, ere it is yet deeper fixed in the joints. See what has been said at § 1272.

But the usual method to bring this about, is as follows. Five or six grains of salt, of hartshorn, or any other volatile alkaline salt, is to be given early in the morning at waking: let six or eight ounces of an infusion of *saflafras*, or of the decoction of the five opening roots, or any other drink of the like nature, containing a gentle aromatic, diluted with a good
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deal of water, be immediately drank above it. The patients lie a-bed an hour or two after : then their skin commonly begins to break out into a gentle moisture, which, far from weakening, makes them rather feel brisker. I have for the most been careful to order the feet and knees to be kept well covered; by which I have frequently so managed it, that these parts have been put into a thorough sweat, whilst the rest of the body, not being so closely covered up, only gently perspired. Sometimes this method was continued for two or three months together : in others it was practised once or twice a week, during the intervals between the paroxysms, and indeed with remarkable good effects ; for the joints, which through the length of the distemper had begun to have a tendency to stiffen, were now rendered much more flexible. Bathing is also recommended, in order to keep the skin clean and fitter for perspiration, particularly to people of dry constricted habits: it don't agree so well with pale, flabby, phlegmatick people, who find much greater benefit from frictions applied universally to all parts of their body.

2. The remarkable efficacy of frictions, in this distemper, hath been already discussed at letter *d*, in the preceding paragraph.

3. Purges that expel watery humours, called hydragogues, are such as have the virtue, not only to drive off whatever is contained within the intestines ; but also to dissolve the humours, and, when dissolved, to carry them off by stool. In the cure of venereal disorders, physicians, as we shall afterwards see, employ such kinds of purgatives ; and the effects are, that the patients, from repeated doses of these medicines, become quite pale, and are very much exhausted : for although no one drop of red blood passes, but only a watery collection of filthy humours, yet the lively florid colour of the countenance, depending on
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the red blood, vanishes, not by evacuating the blood in its natural consistence, but by dissolving it : for it is very well known, that the red part of the blood is the thickest, and therefore of course must be found only in the larger vessels : for which reason these remedies are administered, not only on account of their purging quality, but also for their great efficacy in dissolving. The celebrated *Boerhaave*, in a letter to his friend *Bassand*, who was an old veteran in the gout, advises him to take, every three months, a purgative of this sort, composed of one part of pure scammony, and two parts of diaphoretick antimony, the addition of which last greatly improves the efficacy of the scammony. This medicine is made use of with great success in the cure of intermittent fevers, when given eight hours before the fit. Twelve or sixteen grains of scammony is sufficient to a grown person, though there is some difference to be observed in different people, as some are far easier to be worked upon by purgatives, than others. A medicine of this kind, *Helmont*ⁱ, in a treatise he published in Dutch, calls *diaceltateffon*, the efficacy of which he mightily commends, at the same time, however, allowing, that together with the morbid *feces*, it even carries off some of the wholesome sound humours ; and notwithstanding he believed it a heinous crime to reveal any secret of the adepts, yet he was graciously pleased, for the good of mankind, to publish at least this efficacious remedy ; though, according to custom, he prepares it in a much more laborious and expensive manner than is necessary. He made his diaphoretick antimony of the flowers sublimed with sal ammoniac, and the addition of some nitre, which may surely be prepared, with much less expence and labour, of pure antimony alone, and three parts of nitre. Besides, according to *Helmont*, after the flowers of antimony had been deflagrated with the nitre, the

remain-

ⁱ Dageraad, &c. der Geneeskunst, pag. 186.

remaining mass was to be carefully washed, till nothing saltish could be tasted, in rectified spirits of wine, which was at last to be drawn off from the remaining calx. Now I have always found it more efficacious, and equally safe, when given without being washed. But it is no uncommon thing with the chemists, to set a higher value upon their medicines, in proportion to the greater pains and needless labour they cost in preparing.

As mercury, and medicines prepared from it, are accounted no inconsiderable dissolvents, they use to add a few grains of *mercurius dulcis* to this purging remedy. Chemists had always a great confidence in the virtues of mercurials, especially such as were rendered gentle, or, when given in small doses, neither disturbed the body, nor excited a troublesome salivation. A certain *arcanum* of this kind, which was, however, known to be a preparation from mercury, given to a gouty person during the time of a paroxysm, threw out so great a sweat from the feet, that in two hours time it came through eight folds of blanket, in which they were covered up: and so sensible an alleviation of the pain immediately followed, that the patient was able to walk along the chamber, without the assistance of a staff^k. More cases of this kind are related in the same treatise. Some also have recommended gentle rubbing with mercurial ointment: others have insisted on taking mercury internally^l.

In the mean time, it is in constitutions, principally, that are inclined to fatness, or which abound in mucous phlegmatick humours, that we are to expect any real benefit from purgatives, or other dissolving remedies; for these, in lean constricted habits of body, are by no means proper.

Of the use of purgatives, in the cure of the gout, we formerly spoke, at § 1271, where it appeared that

^k Observ. interessant. sur la cure de la goutte, &c. pag. 458.

^l Ghisi lettere mediche, pag. 110, & seq.

that physicians took different opinions, some condemning the use of purgatives altogether, whilst others ordered them to be given, even in the very gouty paroxysms. *Sydenham*, as we there mentioned, rejects their use entirely, as well in the fits themselves, as during the intervals between them; but at the same time allows, that in certain paroxysms a *diarrhœa* may sometimes prove a critical discharge. Yet he was always afraid, lest purgatives, when given, should raise such disturbances in the body, as might hasten on a paroxysm that hitherto lay quiet, and would have perhaps, otherwise, been a long time of appearing: though afterwards, as we said before, at § 1258, he was under less apprehensions from them, if, for instance, in the same day they were administered, an opiate was given towards the evening, which very safely and successfully allays any commotion occasioned by the operation of cathartick remedies.

But seeing these drastring purges not only act by evacuating, but also by dissolving, they might be attended with great benefit in skilful hands, and under the restrictions above mentioned, when administered during the intervals between the fits.

It is for the same reason that mineral waters seem to have been recommended by physicians. The celebrated *Hoffman*, as we mentioned in a preceding paragraph, highly commends the use of the Caroline baths, as containing an alkaline salt, but which, at the same time, works off by stool. *Coste*^m also advises the use of the Caroline baths, the waters of Aix-la-chapelle, and other medicinal springs, provided the patient does not exceed fifty years of age: for *Sydenham* remarksⁿ, that we must expect no good from mineral waters, *si senes fuerunt (ut sunt plerumque) & pariter, corporis habitu phlegmatico, imbecilloque:*

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^m Traité pratique sur la goutte, p. 86.

ⁿ De mictu sanguinis a calculo, &c. pag. 709.

becilloque: in his enim nonnunquam naturæ vires eousque sunt minutæ & succisæ, ut omnino metuendum sit, ne tanta copia aquarum penitus obruantur ac succumbant:

“ where the patients (as for the most part is the
 “ case) are in years, or of a phlegmatick, infirm
 “ habit of body: for in these, the natural forces are so
 “ much impaired and shattered, that there is all the
 “ reason to be afraid, lest they should be over-
 “ whelmed, and sink altogether, under so great a
 “ quantity of water.”

S E C T. MCCLXXVII.

BY which medicines and method much good may be done, even in the chalky tophaceous kind of gout.

Notwithstanding the gout, without all manner of doubt, is exceeding difficult to cure, yet if things are, in fact, really so as they have been represented in the preceding paragraphs, there is great hope of getting the better of the disorder, if it is not, as yet, wholly inveterate; or if we cannot subdue it entirely, we may at least administer very considerable relief, provided the patients will yield a strict obedience to the precepts of their physicians, and resolve to observe exactly the rules they lay down with regard to diet, which is a thing not always to be expected from gouty people, who generally indulge their inclinations to the utmost, and disregarding their future sufferings, chuse rather to purchase the pleasure of living in their accustomed state of indulgence, at the expence of a few weeks torment, and thus fall a wretched sacrifice to their own folly.

Yet, however common the maxim may be, that the nodous gout is altogether incurable, some even despairing of any alleviation, and throwing away all
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hopes, upon the first appearance of chalky knobs arising in the joints; as I have observed, not only patients, but even physicians themselves, entertain such desperate notions; nevertheless, there is nothing more certain, than that a great deal of good may be done, by a right method of cure, even in a tophaceous kind of this distemper.

Several things have been said, at § 1261, concerning the matter that constitutes these *tophi*, which so often disfigure the joints of gouty people: from whence it is sufficiently evident we are not altogether to despair of resolving and dissipating such kind of tumours. *Sydenham*, as we mentioned before, at § 1269, has observed, that by a daily and long-continued bodily exercise, indurated *tophi*, of very long standing, had been resolved, so as at length entirely to disappear. He remarks, however, that when the chalky tumours converted the surface of the skin into a substance like their own, they were not then to be dissipated; but this tophaceous matter commonly ruptured the skin and came out, the places, whence it issued, healing up afterwards; and that we must have recourse to bodily exercise alone, to hinder the matter from growing up again in these places, seeing the self-same cause had been powerful enough to dissipate the hardest of these kinds of tumours, arising in other particular parts of the body.

Forasmuch then as this chalky matter has been formerly in a condition to circulate through the vessels, and may frequently, when found in these kinds of tumours of a subliquid consistence, be dissipated by bodily exercise; it does not therefore appear to be altogether indissoluble; neither is the art deficient in means, which, if rightly applied, might give us hopes of resolving these sorts of tumours entirely.

Seeing this calx or chalk-stone easily dissolves in acids, and the bones themselves, when macerated in an acid liquor, in which their earthy part dissolves,

acquire the softness of a cartilage, as we have said, § 1261; some have therefore attempted to resolve such tumours by the external application of acids, which, however, ought to be tempered, and rendered so mild as not to hurt the skin. Having then distilled a quantity of spirit of sea-salt, after the manner of *Glauber*, from equal parts of crude sea-salt and oil of vitriol, they put to this spirit as much oil of turpentine as equalled the quantity of sea-salt employed in the process: the oil of turpentine, impregnated with the penetrating vapours of the spirit of sea-salt, acquired a reddish colour: with this oil the gouty *tophi* were anointed, in order to dissolve them, which sometimes was attended with very good success. The oil of turpentine, being very penetrating, was no sooner rubbed on the parts, than it disappeared, sinking away, as it were insensibly, within the skin itself, and having the acid spirit of the sea-salt united to it, could act with greater efficacy on the gouty chalk-stone.

Remedies, however, of an alkaline nature, have been more frequently employed in curing the gouty *tophi*. *Galen*^o took a piece of old fat cow-milk cheese, that by chance had been kept very long; and this, being macerated in the broth of a salted leg of pork, was applied to the gouty *tophi*, with so good an effect, that the skin broke, and every day poured out little soft pieces of chalky matter without any pain: the same experiment he tried on several others afterwards, with equal good success. Now it is very well known, that old cheese is of an alkaline nature, and at the same time turns rancid, especially when fat, as that commonly is which is made of milk, before it is deprived of the cream. It is true, indeed, the chalky matter came out only when the skin broke; nevertheless it appears, as if something like

^o De simpl. medic. facult. Lib. X. cap. 9. Charter. Tom. XIII. pag. 282.

a solution had begun, as *Galen's* words are, that it came pouring out. *Ætius* ^p prepared a medicine for the gout, of a *lixivium* and spume of nitre, which he calls erosive, because it rises into little bubbles, and erodes the skin. And in another place ^q he recommends quick-lime, with an equal quantity of nitre, mixed up with hogs-lard, to be applied to the chalky tumours. Now it is very well known, that what the antients called nitre, was by no means the same with the salt which passes at present, in the shops, under that name; for there are many arguments which serve to prove the nitre of the antients was of an alkaline nature: besides, we know that the acrimony of alkaline salts is very much increased by the addition of quick-lime. *Trallianus* ^r recommends, as a very efficacious remedy for resolving gouty tumours, and whose virtues had been confirmed by long experience, a certain cerate, which, besides the spume of nitre, contained a *lixivium*, used by the cap-makers in scouring their woollen stuff. From seeing, therefore, that all these remedies, recommended by the antients, were chiefly of an alkaline nature, I was determined to try an application of a similar kind, which indeed contains a fiery acrimony, but so diluted, as cannot by any means in the least prove hurtful, yet has all the efficacy of a powerful solvent.

I had considered the nature of the common caustic used in surgery, that it was prepared of alkaline salt and quick-lime, burnt together in a very strong heat, and melted in a crucible; from which resulted a composition, that when applied to a living body, in whatever place it touched, was sure of producing a dead gangrenous eschar, which afterwards melted down into a corrupted ichor. I had observed an alkaline salt rendered much more acrid by the addition of

P 3

quick-

^p Sermon XII. cap. 27. p. 320.
^r Lib. II. cap. 1. pag. 639, 641.

^q Ibid. cap. 45. p. 347.

quick-lime; and that, when dissolved in water, yielded a *lixivium*, which not only dissolved the fat, but the solid substance of animals, having at the same time no power on that of vegetables. It is very well known, that all the gold lace, used as an ornament for clothing, is wrought upon silk thread, so as to cover it entirely; and in order to clear the gold lace from the silk, when either the clothes are dirty or very much worn, they boil it in a lee of this sort, until all the silk is entirely dissolved; and when the liquor is poured off, the gold, or rather the silver done over with gold, remains pure behind. Now a linen cloth, made of any thing procured from vegetables, will suffer no such injury; but silk, being the production of an animal, dissolves entirely in this liquor.

To shorten the labour, I took some crude tartar reduced into powder, and mixing it with thrice the quantity of quick-lime, placed it in a clay furnace, keeping it a proper time in a very strong degree of heat: when the furnace was cold, I caused this saline mass to be dissolved in warm water, filtered and evaporated into a dry salt, which was kept in vessels well stopped up from the air, to hinder it from liquefying: so much of this salt I dissolved in pure water, or that distilled from roses or elder flowers, as, upon tasting the solution, left no acrimony on the tongue, or any thing remarkably disagreeable to the taste; for then I was certain the skin could not suffer any injury from it. In this solution pieces of linen were dipped, and applied wet to the gouty tumours, and with remarkable good effects, for sometimes, in a few days, they were entirely dissipated. In *exostoses* also, and other obstinate tumours, I have found the same do a great deal of good.

But as alkaline salt and quick-lime are both employed in making of soap, therefore we see the reason why its use is esteemed so harmless, and at the same time so very efficacious, principally because, by
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the additional fat, or grease, being intimately united to the alkaline salt, the acrimony is entirely blunted.

From the *lixivium*, however, above recommended, when sufficiently diluted, still more remarkable effects are to be observed. Hence we may understand why alkaline remedies have been so often insisted on by physicians of the greatest eminence in the profession, not only by way of preservative from, but even as a cure to gouty tumours. *Hoffman* * recommends the volatile tincture of sulphur, prepared from quick-lime, sal ammoniac and sulphur; and that a piece of brown paper, dipped in this tincture, be applied to any part, where gouty *tophi* are in the least to be apprehended: and in another place † he cries up the *balsamum sulphuris antimoniacum*, made of the salt arising from the *scorii*, in making the regulus of antimony, infused in oil of turpentine or juniper, as a sovereign and speedy remedy for discussing old inveterate gouty tumours.

But from the chemical preparation † of the regulus of antimony we learn, that the tartar and nitre, which are melted in a crucible, together with the antimony, are converted into an acrid alkaline salt, which attracts and unites to itself the sulphureous part of antimony, while the metallic part sinks to the bottom; and therefore this *balsamum sulphuris antimoniacum* hath all the properties of an alkaline salt, and these indeed of a kind abundantly acrid.

S E C T. MCCLXXVIII.

IN extreme necessity, and to sooth the raging pain of the parts, it may be often allowable to use opiates internally, plentiful draughts of whey, or any thin diluting liquor of that

P 4

fort,

* Med. ration. & system. Tom. IV. sect. 2. cap. 11. pag. 531.

† Ibid. p. 536.

‡ Herm. Boerhaav. chem. Tom. II. pag. 507, & seq.

fort, drank warm; and externally, emollient, anodyne, warm applications, or even whipping with nettles, or anointing with terebinthinated balsam, or burning with *mona*.

Whenever, indeed, the pain is gone off, or even when it is tolerably gentle, the gouty people bear their disorder then without much complaint: whence the *Invincible Queen of Pain*, as was said at § 1273, according to *Lucian* ^w, breaks out into these words;

*Verum dolor mihi malorum adjutor est ;
Nihil ego namque sum, si ab hoc relicta sim.*

“ But Pain supports the terrour of my throne;
“ For I am almost nought when he is gone.”

But the cruel bitterness of torment in this disorder is sometimes so great, as to exceed all human patience: then the wretched sufferers call out to their physicians, to their friends, and to all present, conjuring them, by the love of every thing sacred, to procure them some respite from the cruelty of their torment, and are ready to try any one thing, which can flatter them, in the least, with the smallest hopes of relief: whence there has arisen an infinite number of remedies; *egrotos namque sibi ipsis remedia parare urgens impellit calamitas* ^x; “ for the extreme sufferings of the sick impel them to seek out for themselves various remedies.” But as these very sharp, raging pains, usually of themselves abate in the morning; the patient very often ascribes that relief to the remedies, which is only a common effect, arising from the nature of the distemper, as we have at greater length already shewn before.

From what was said in the article concerning pain, § 228, 229. it appeared that there were two ways

^w Tom. III. pag. 664.

^x Aret. de curat. morbor. diuturnor. Lib. II. cap. 13. pag. 134.

ways of alleviating the same: namely, either by taking away the cause of pain, or by taking away the sense of it, though the cause should even remain. Both these methods have been attempted by physicians, as well as by patients themselves.

The first of these methods is always the safest, but which cannot be obtained at all times in this distemper; for the morbid matter, from whence the pain arises, can by degrees only be so far subdued, as to be fitted to pass through the places it occupies, § 1261, in the way of perspiration; and whilst this change is going on, the pain often rages at an excessive rate. Now the principal remedies against the pain are, first to sooth and blunt every degree of acrimony; and next, to soften and relax the parts affected: for these purposes weak veal broths, large draughts of thin whey, infusions drawn from the emollient herbs, and the like, are greatly recommended, and are of real service, as they dilute and sheathe whatever there is of acrimony, and relax the more solid parts; but yet they are not sufficient to procure a quick and sudden relief from the tormenting pain. There have also been invented a vast number of external remedies of the same nature, of various forms, and different methods of application. From the testimony of *Aretæus*^y we are informed that there was a noted remedy in his days, famous for allaying the pain, which was as follows: they let a hungry goat feed upon the iris plant, till it could take no more; then by the time this food was expected to be thoroughly digested, they slew the creature, and the moment it was cut up, put the patient's disordered feet into the reeking entrails of the animal. We have, in several other places, taken notice of the efficacy of that bland, oily vapour, which exhales from the entrails of an animal newly killed, in allaying, most successfully, the bitterest and most outrageous

y Ibidem.

rageous pains. But here the wretched sufferers, while they are under the severest torture, cannot bear the tenderest touch, or the least motion of the parts affected, not even so much as the very weight of the bed-clothes: so that, however useful this warm *fotus* may be in its own nature, I do not see how it can be so easily applied, while the limbs are in so miserable a condition. *Sydenham* condemns all external remedies whatever, as being either hurtful or useless; (see § 1273.) and he affirms that, however he might, at a particular time, have found benefit from a poultice of bread and milk, with a little saffron, and some oil of roses, yet it never was of any service in the beginning of a painful paroxysm; whence afterwards, for many years, he laid aside the use of external remedies entirely. *Coste*², in like manner, condemns the use of cataplasms for allaying the pain, as not only useless, but even hurtful; and only kept the parts affected well wrapt up in warm flannel, being convinced from experience, that this was the best method to promote perspiration, by which alone the pain could be most effectually relieved.

The next, and almost only thing now to be considered, is how to soften the rigour of the torment, by taking away the sense of pain, while yet the cause remains. This may be done two ways, (see § 229.) namely, by deadening the *sensorium commune*, or seat of sensation, by the power of narcotic remedies; or by rendering the nerves quite unfit for all kind of sensation. *Sydenham*², though pretty free in the use of opiates in several other diseases, was very scrupulous of employing them in allaying the pains of the gout; for he gives this prudent admonition. *Si igitur dolor admodum sæviat, æger rectius sibi consulat, se in lecto continendo, donec is aliquantisper remiserit, quam si anodynis utatur: attamen haud abs re fuerit, laudani pauillum*

² Traité pratique sur la goutte, pag. 64.

² Tractat. de podag. pag. 601.

auxillum vesperi sumere, si dolor patientiam multum vincat; aliter melius omittetur. “Should the pain then be excessively severe, the patient, till it is a little abated, had better be contented to keep to his bed only, than to take any thing by way of anodyne: but yet, if the pain shall very much exceed his patience, he may then take a small quantity of laudanum in the evening; otherwise it is much better that it be entirely omitted.” However, should the pains be really so violent, as to require the use of opiates, these remedies ought, by all means, to be concealed from the knowledge of the patients; for when they have once experienced a relief of this kind, they would desire never to be without it in pains of a slighter nature. But among the causes that hinder the gouty matter, when ripe, from being discharged at the usual places, that of the improper use of narcotics has been already reckoned at § 1273.

Now gouty people, when under the severity of these racking pains, would willingly purchase their ease at the expence even of life itself, and despising all a physician can say, at their own peril, often administer opiates to themselves; which more than once I have had particular occasion to see.

The antients sometimes applied external remedies for allaying the pain, but they seem to have been always apprehensive of danger from their use. *Aretæus*, as we have said before, at § 1273, employed them to allay the immoderate heat of the parts affected; but when this end was once obtained, which generally happened in an hour, he ordered them to be removed immediately, to give place to applications of a different kind. *Trallianus*^b, in like manner, when he recommends, in the extremity of pain, saffron, the juice of coriander, *glaucium*, with a little opium to be applied, immediately subjoins, *Cæterum sciendum est*,

^b Lib. II. cap. 1. pag. 609.

est, epithematum & unktionum, quæ torporem inducunt, liberaliorem usum cavendum esse, ut quæ magis offendant, quam juvent. At si ob vehementem dolorem æstumque, ipsis uti cogamur, animus diligenter adhibendus est, ne hujusmodi auxilia diu incumbere permittamus: verum sive unktiones sive pharmaca esse, quæ adhibentur, contigerit, conandum est statim, simul atque fervor doloris finierit, ipsa prorsus auferre. “ But it is necessary to

“ know, that we are to take particular care how we
 “ make too free with narcotic ointments, epithe-
 “ mas, and such applications, as they commonly do
 “ much more harm than good. But if, through the
 “ excess of heat and pain, we are obliged to use
 “ them, then we must be strictly attentive and dili-
 “ gent to see that these remedies lie not too long
 “ upon the parts; but be they ointments or cata-
 “ plasms which happen to be applied, that minute
 “ the heat and pain abate, they must by all means
 “ be taken away.” All these serve only to destroy
 sensation in the nerves, while that, which occasioned
 the pain, remains as yet untouched. *Servius Clodius*,
 as was mentioned before, at § 1273, anointed his feet
 with poison, with this effect, that they were ever af-
 ter deprived of all manner of sensation.

In speaking of the remedies proper for allaying pain, at § 229, we have taken notice that *Hippocrates* used to advise deep scarification, and even to burn the places affected, as a certain remedy to the most obstinate pains. Here it is plain, that the nerves affected must have either been cut through by the knife, or destroyed by the hot iron. We had occasion to make mention, at the same time, of that soft down of the herb *artemisia*, which the Asiatics use by way of actual cautery to any part, and which is longer of acting than the hot iron, but yet much less severe: *Hippocrates* ^c made use of crude lint for the same purpose. However, it is pretty certain, that
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^c De affection. cap. 8. Charter. Tom. VII. pag. 630.

the downy part of the *artemisia*, which the Asiaticks call *moxa*, when it is burnt upon the part, does not always destroy the nerves, but acts by drawing forth the humours from the part affected, every thing being agitated, and set a stirring, by the quick and active force of the extraneous heat. In the *Miscellanea Curiosa*^d we have a very remarkable instance of the good effects of this remedy, in allaying the pains of the gout. A certain clergyman, who inherited this distemper from his father and grand-father, as he was laid up with a very severe fit in Batavia, the metropolis of the Dutch settlement of that name in India; an Indian woman promised, not only to give him ease, but also to cure this distemper entirely, provided he would undergo only a gentle burning. He was averse to it at first, but upon his pains increasing, he at last consented. This woman, then taking a bit of *moxa*, no bigger than a pea, and forming it into the shape of a cone, applied the base to the place where the pain chiefly was felt, then set fire to the *apex* of this little cone, with a small match of an aromatic twig. Part of the *moxa* was converted into ashes, and part remained adhering to the skin, which the humidity, that issued from the parts, had hindered from burning. This burning with the *moxa* was several times repeated, though for the most part it is only performed thrice; and the whole operation was finished in half an hour, though he had this remedy applied to several places at once. *Motum humorum intercutaneum celerrimum sensu et oculis se deprehendisse ait; dolores vero omnes confestim cessasse; odorem interim tetrum exspirasse locum affectum, perhibet; inde mox incidisse somnum diuturnum, quo per septimanas aliquot caruerat: altera die exprorectus, præter tumorem pedum nihil sensit mali, sed et illi mox detumuerunt.* “ He said “ that he could observe by his sight, as well as “ feeling, the quickest motion of the humours just underneath

^d Decur. 1. an. 6, & 7. pag. 319.

“ underneath the skin, and that all his pains abated
 “ immediately : in the mean time he allows, that
 “ the part affected threw out a rank stinking va-
 “ pour, and that soon after he fell into a continued
 “ sound sleep, which he had not enjoyed for several
 “ weeks before: next day, when he waked, he found
 “ nothing of the disorder remaining, but a swelling
 “ in the feet, and this also went very soon off.”

The remarkable and sudden ease, without any injury following, the motion felt immediately under the skin, the filthy stinking vapour, do all seem to point out, that the pain was not taken away by a retro-pulsion of the gouty matter, but rather by a thorough evacuation, as the morbid matter, put in motion by the fire, went off by the pores of the skin, striking the nostrils with a most offensive smell. (See § 1261.) That all the morbid matter, which was accumulated in the joints, had gone off from thence, appears from this, that he kept free from the gout for seven and twenty years together. But yet the original gouty character, or disposition, was by no means destroyed; for he owns, that afterwards he had several slight attacks of the same distemper: and a great while after, when he lay ill of a very dangerous fever, the disease terminated in a smart fit of the gout, to his great joy, as he then knew for certain where to apply for relief from the pain: at the same time he affirms, that this same remedy had done most remarkable service to all those on whom he could prevail to try it.

It is very plain, however, that the whole of this effect is to be attributed entirely to the action of the fire, and not to any medicinal virtue residing in the *moxa*, or in the aromatic twig-matches that kindled it. We may at the same time perceive, that this method does not by any means destroy the original cause of the disease, but only dissipates sooner that quantity of morbid matter, which, being deposited at
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the joints, excites all these cruel tormenting pains. Sydenham*, though he does not seem to have any great opinion of the use of *moxa*, and thinks that the burning with crude lint, after the manner of *Hippocrates*, may produce the same effects, yet he owns that *hec partis affectæ ustulatio aliquid pollicetur (quod & efficere possit) ad doloris committigationem, evocata scilicet fomitis morbifici parte subtilissima, ac maxime spirituosâ, in articulam jam deposita: attamen beneficium ab hoc remedio parvum, cum indigestionem, quæ podagræ causa est antecedens, nullo modo attingat, fugax esse oportet et breve*: “ this gentle burning of the
 “ part affected promises some mitigation of the
 “ pain, (which it may even sometimes effect) by
 “ drawing forth the most subtle and spirituous part
 “ of the morbidick *fomes* already lodged in the joints:
 “ but yet that little benefit, which does arise from
 “ this remedy, as it can by no means reach the in-
 “ digestion, which is the antecedent cause of the
 “ gout, must be very transitory and fleeting.” It is a great deal, however, that it can allay, with safety, the bitterness of the pain, and dissipate the gouty matter; for when these are once done, we may then, with more ease, administer all those other remedies, for helping digestion, and strengthening the bowels, that were recommended at § 1275.

Neither is there any thing so very terrible in the burning with *moxa*, seeing the very boys in Asia, according to *Kaempfer*, endure it without so much as a whimper, which, he says, he has a hundred times seen. I have burnt a pretty large cone of *moxa* upon my own thigh, and found that I could bear the pain very easily; for as the fire spreads itself insensibly through the lighted down of the *artemisia*, the heat is increased by degrees, until it rise to its utmost pitch, which is pretty tolerable. Perhaps gouty people are less sensible of pain, from thus superficially burning the
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the skin, as they are pressed by a fiercer degree of pain from the parts subjacent, according to what *Hippocrates* says: *Duobus doloribus simul obortis non in eodem loco, vehementior alterum obscuret*: “Of two
“ different pains arising in the same place, the most
“ violent will render the other less perceptible.”

But as to the method of preparing *moxa* from the down of the *artemisia*, an account of it may be seen in *Kaempfer*¹, and *ten Rhyne*².

It was, perhaps, with a view to obtain the like effects that some physicians have tried to allay the pains, by remedies which contained a fiery acrimony, and upon being applied to the sound skin, produced an inflammation, expecting that the morbid matter, when once set in motion by these, might be sooner and easier dissipated. Agreeable to this, there is a plaister or cerate, described by *Trallianus*³, in which we find besides the *nitrum alexandrinum*, some *euphorbium*. *Etenim summam cutim discutit, & vellicat, trahi ex alto quæ impaeta sunt, & discutit, & dolorem exscindit*.
“ For it agitates and frets the outer skin, draws
“ forth, and dissipates whatever lies deeply obstruct-
“ ed, and removes the pain entirely.” They even applied so hot and acrid an ingredient as *euphorbium* only boiled up with wax and oil; mustard beat up with vinegar and figs; blistering plaisters, with *cantharides*, and also garlick⁴. All these, no doubt, are exceeding acrid medicines, inflame the skin, occasion a good deal of pain, and therefore can alleviate it in no other way than as they contribute to dissipate the morbid matter: whence *Trallianus* did not altogether approve of them, being afraid, lest, when the finer parts were dissipated, what remained should be fixed more immoveably.

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¹ Amœnit exotic. pag. 592, &c.

² De arthritide, pag. 108.

³ Lib. IX. cap. 1. pag. 623.

⁴ Ibidem, 625.

Many have recommended anointing with *terebinthinated balsam of sulphur*; which is also a remedy abundantly acrid and penetrating, but disagreeable, on account of its horrid stinking smell. Perhaps the same effects might be as well obtained from the fragrant aromatic distilled oils, such as cinnamon, cloves, &c. especially if they were properly mixed and diluted with something of a saponaceous nature, which might prevent them from hurting by too great a degree of acrimony; for these essential oils are so acrid, as to inflame the skin when applied alone. We have an account of a remedy of this sort^k, prepared of oil of turpentine, salt of tartar, and Venice soap, mixed together, with the addition of *spiritus matricalis*, or *juniperi*; and whenever it was necessary to use this medicine, to every ounce of it they dropped fifty drops of the oil of *Coelilaban*, which was thought to be distilled from the roots of the nutmeg and clove tree, and brought from Asia. But as this oil is very aromatic, and as it may not, sometimes, be so easy to procure it, the essential oils, therefore, of nutmegs, mace, or cloves, seem to have all the requisites fit to supply the deficiency. Mention is made likewise of the very quick and successful effects of this remedy, when applied for pains about the knee pan^l and parts adjacent.

All these act by irritating, moving, heating, and sometimes by resolving, and if the morbid matter can by their means be expelled out of the body, do service; if otherwise, they increase the pain, and occasion, besides, a great deal of harm. The *stimulus* of nettles, raising a smarting pain, was recommended in the cure of a palsy, at § 106. but no one, so ill, through extreme pain, as to tremble even at the approach of any thing to touch him, can ever think of enduring a whipping with them.

^k Haerlemsche Maatschappij, Tom. II. pag. 7, & seq.

^l Ibidem, Tom. IV. Berichten, pag. 22.

S E C T. MCCLXXIX.

BUT if they are administered under any other circumstances, there will be good reason to apprehend an induration of the part affected, with a loss of motion in the joint.

All the remedies, from whence an alleviation of the pain might be expected, have been enumerated in the preceding paragraph. We see, however, that the physicians, who recommended these applications, whether of a cold or hot nature, have always ordered them to be very soon removed. Thus *Trallianus* ^m after enumerating the remedies which lessen pain by stupefaction, says, *Universa namque hæc, diutius in hærentia, torporem & movendi difficultatem in articulis excitare solent*; For all these, remaining too long on the “ parts, usually bring on stiffness and immobility in “ the joints:” and speaking of warm and acrid applications, adds, *Nocent enim maxime, etiamsi lenire videantur, &c. nam id, quod tenue est, solum per illos exhalat, crassum autem & terrestre relinquitur; ut quocumque manere & insigi articulis, ac adhærescere, compellant, &c. nam omnes solis adeo acribus medicamentis, quæ nibi habeant emolliens usi, præsertim initio, & cum urgeret copia, articulos nati sunt difficiles ad motum, & post longum tempus eo revertentes, ut potuerint incedere.* “ For they are exceeding hurtful, even when they “ seem to give ease, &c. because the finer part is “ only exhaled, while the grosser terrestrial parts remain behind, which of course adhere more “ closely, and are more deeply fixed within the “ joints, &c. for all those who have had acrid medicines alone, without any thing emollient in them, “ applied to the parts, especially in the beginning of “ the

^m Lib. II. cap. r. pag. 600.

“ the paroxysm, when the morbid matter abounded,
“ were commonly much disabled in their joints, and
“ it was a considerable time before they recovered
“ again the use of their limbs, so as to be able to
“ walk.”

It was before mentioned, at § 1273, that *Sydenham* observed, both from what he had experienced in himself, as well as from what he had seen in others, that pain was no other than nature's bitterest remedy, which she employed to bring the matter, deposited at the joints, to maturity, and to render it fit to pass out by perspiration, in the most salutary manner, from the part affected. Therefore, so long as the patient complained of exquisite pain, he never was afraid, and could venture to assure them, that the more acutely painful the paroxysm was, the longer respite they might expect from the next attack; but when the pain was inconsiderable, and they rather complained of a disagreeable sickishness, then, indeed, he apprehended the worst of consequences from so dangerous a situation of the disorder.

This was the reason why he never chose, but when urged to it by the extreme severity of the pain, to have recourse to anodynes; being always suspicious of some dangerous consequence; or other, attending their application.

Even the soft poultice he applied to his own disordered feet, he at last laid altogether aside, as finding it of very little service. *Coste* too, as we have said, rejected all outward applications whatever, keeping to flannel alone, which by softly covering the diseased limbs, and defending them from the external cold, favoured greatly the salutary perspiration of the parts. Nay, it has been always observed, that the joints stiffen sooner, for the most part, where the disordered limbs have been too much pestered with fomentations, ointments, plaisters, and the like. See what has been already said, at § 1261.

In allaying pains of the gout therefore, it is a matter of the greatest nicety to manage the use of anodynes with safety.

S E C T. MCCLXXX.

BUT the most efficacious remedy to every species and degree of the distemper is that which is the most opposite to the cause, from whence each particular species and degree arises, (1255, 1258.)

In the two paragraphs here cited, the different causes that give rise to the gout were enumerated; as also those that are apt to excite and accelerate a latent paroxysm, which, without this *stimulus*, might have certainly kept longer away. It is therefore of itself abundantly evident, that all such causes must be carefully avoided, if we are desirous to obtain any alleviation, or even cure of this distemper; for whatever is able originally to produce this disorder, in a strong and healthy body, must certainly strengthen and increase it when already produced. All physicians unanimously acknowledge, that they very rarely find gouty people so obedient to their advice as they ought to be. The long-continued intervals between the paroxysms, observed in the beginning of the disease, make the patients unwilling to own it to be the gout, and thus vainly flatter themselves with the hopes of keeping free: and many, notwithstanding they stand confessed votaries, being fully initiated in the mysteries of this *Invincible Queen of Tortures*, yet being born, as it were, the genuine offspring of jolly Bacchus, chuse rather to indulge their jovial inclinations in daily feasting and midnight revels, than to buy off whole years of torment, at the easy price of a life of sobriety and temperance. When-
ever

ever the excessive pain goes off, they laugh at all physical admonition. In the mean time, the disease strikes deeper root, the functions of the *viscera* are more and more injured, old age comes on apace; it is too late then to be wise, and all their repentance, however sincere, will stand them in no stead: for if ever that common adage was applicable to any distemper, it certainly must be so with respect to the gout;

*Principiis obsta, sero medicina paratur
Cum mala per longas invaluere moras.*

“ Wisely at first oppose the growing ill,
“ Which long neglected baffles all our skill.”

S E C T. MCCLXXXI.

BUT if there appear any signs of the gouty matter being turned inward, we must, without delay, endeavour to drive it back to the joints; therefore, let large blisters be immediately applied to the thighs; and to the parts that formerly used to be pained, warm, saline, aromatic fomentations; let the patient walk much, or be well jolted in a carriage; let him take large draughts of some sudorific aromatic decoction, or if that does not answer, some good old Rhenish wine; and when this is done, and the pain begins to invade the genuine parts, let him be laid in a warm bed, well covered up, till he sweat.

At § 1273, we discoursed of the signs which declared when the gouty matter was come to maturity, though not perhaps deposited, as yet, at the places where it had

usually discharged itself, during former paroxysms. A skilful physician will be suspicious of every new symptom on this occasion, however slight it may appear. I have more than once seen a catarrhus cough in the spring, that attacked several other people, without much danger, in gouty people degenerate into a most dangerous peripneumony, upon the eve of an approaching paroxysm. Whenever, therefore, old veterans in this distemper shall remain a long time without having a paroxysm, there is always then some latent mischief to be apprehended; especially if the relief is not to be attributed to the proper diet and method of cure formerly mentioned. At this time, therefore, we must employ every art to excite pain in the joints, that the morbid matter, which now occupies the *viscera* in so dangerous a manner, may be derived towards the usual places, and thus life itself be preserved at the expence of a sharp, but salutary pain.

The patients are frequently very happy in finding themselves respited so long from their torments; nay, even are violently enraged at their physician, if they suspect any attempts made to bring back their pains; and yet, without this is done, no salutary cure can be expected.

If then the signs mentioned at § 1257, are present, or if such causes have preceded, as were accustomed to accelerate the paroxysms, and no pains of consequence are excited in the joints, but, on the contrary, irregular symptoms, such as anxiety, gripes in the belly, vomiting, hiccup, pains in the sides, difficulty of breathing, great inclination to dozing, delirium, sore throat, &c. shall appear; then, as the danger is imminent, some efficacious and powerful remedy must be attempted.

Formerly, when treating of the cure of obstructions, at § 134, we had occasion to speak of those things, by which the efficacy of particular remedies might

might be either derived, attracted, or propelled to certain places of the body. It was shewn at § 859, and 860, by what means the morbid matter formerly oppressing the lungs, being rendered now moveable, might be determined to various parts of the body, provided these parts were previously fitted and disposed, so as to have less of resistance and more of attraction; which is principally effected by relaxation and *stimulus*, whilst at the same time nothing will more contribute, not only to support, but even to invigorate the powers of digestion, than a light, thin, liquid, and gently aromatic diet, wherein a little wine may be admitted.

Hence large blisters are forthwith applied to the thighs, where a gentle irritation is to be perpetually kept up, which will of course, as long as this *stimulus* remain, oblige them to require a more copious supply of lymph. Sinapisms and plaisters of *galbanum* are also laid to the feet; and it is sometimes of great service to foment these parts with warm infusions of fresh rue in Rhenish wine, adding to every pint of the wine half an ounce of sea salt. Walking, or going out in a carriage, according as the patient's strength or favourableness of the weather will allow, is also of very great utility; but otherwise lying in bed, well covered up, will dispose the body to a gentle breathing sweat, which may be greatly assisted by plentiful draughts of some warm infusion gently aromatic, such as saffrafras tea, or that of the saunders wood, or a decoction of the five opening roots, and the like, where a mild aromatic is diluted with a good quantity of water. To promote the same intention, some fragrant wine may be of use, such as good old Rhenish, especially where the patients are languid, and have been long afflicted with the distemper, and above all, if they have been accustomed to a liberal glass. A certain gouty veteran, who had been a strenuous drinker, was once taken ill,

when he felt very little or no pain in his feet, but complained of a sickishness and *nausea*, together with slight twitches in his belly, and great debility. He was entirely forbid the use of wine by his physician. However, a friend of his own, an old bottle companion, with whom he had had many a stout drinking-match, coming to see him, and ordering immediately all the other stops to be carried away, prevailed upon him to drink a full bottle, to his own share, of good, old, generous Rhenish, with this good effect, that in a few hours the feet began to be smartly pained indeed, but then all the other symptoms vanished: whence in the morning, when his pains abated, and the physician came to renew his visit, he diverted himself very merrily at his expence, boasting that, to his great comfort, he had made a discovery that good wine was the only true specific against the gout. Sydenham, in the following quotation, acknowledges, " that in the paroxysms at the
 " latter periods of life, he never found any thing
 " succeed so well, in recovering the weakness of the
 " stomach, and languor, accompanied with a sort of
 " windy gripes, as small glasses of Canary wine,
 " taken at any time when oppressed with sickishness
 " and languor; neither had he ever experienced so
 " much efficacy, even from French claret, *theriaca*
 " *andromachi*, or any other cordial whatever, that he
 " was hitherto acquainted with." *Multa egomet expertus sum in postremorum annorum paroxysmis ad mitigandum hoc symptoma, (ventriculi nempe debilitatem ac languorem, cum ventris torminibus tanquam a flatu) nihil vero æque votis respondit, ac vini Canariensis haustulus subinde deglutitus, languore atque ægritudine urgentibus: neque vel vinum Gallicum rubrum, vel theriaca andromachi; neque aliud quodlibet e cardiacis mihi hætenus notis pares habet vires.* Coste°, in the like cases, recommends the use

^a Tractat. de podag. pag. 589.

^a Traite pratique sur la goutte, pag. 66, 67, 68.

use of wine, and even to have some of the hot stimulating aromatics added. When, during a fit of the gout, he found the stomach troubled with disagreeable spasms, he commonly took some drops of distilled oil of mace, or cinnamon, in a little Spanish wine, which had the good effect to allay the spasm, procure him a refreshing sleep, and to promote a kindly breathing sweat.

But when any very terrible symptom, that would admit of no alleviation, caused by the matter flying inwards, and threatening even life itself; then Sydenham^p, rejecting all other remedies, had immediate recourse to liquid laudanum, twenty drops of which he ordered for a dose, *modo non caput, ac partes naturales, vel vitales, ejusmodi malum impeteret*, “provided the disorder had not reached the head, or natural and vital parts;” desiring the patient to go to bed, and compose himself to rest. For if, for instance, the lungs were attacked by the morbid matter, then, as we mentioned before, he treated the disorder as a peripneumony, by bleeding, &c.^q when the morbid matter driven back, affected the stomach, there follows terrible pain, with fruitless efforts towards vomiting: in such cases Coste^r used to order twenty drops of liquid laudanum to be given immediately; and to a soldier who was miserably afflicted in this manner, being strongly convulsed, and having cold sweats, he even gave thirty. After taking these, a vomiting of bile in great quantities soon follows, which commonly gives immediate relief. Sydenham^s, when the pains vanished from the joints, and this was succeeded by a great degree of sickness and oppression, attended with vomiting and gripes, immediately swallowed down some pints of small beer, or other weak liquor, and as soon as all this came away by vomit,

^p De podag. pag. 598.

^q Ibid. 599.

^r Traité sur la goutte, pag. 72.

^s De mist. sang. pag. 706.

vomit, took eighteen drops of laudanum, in a little Canary, went to bed and composed himself to rest: by this method, he assures us, he has more than once been snatched from imminent danger. But soon as the spasms of the stomach and intestines grow easier, the patient, if he is kept warm and well covered, finds his skin at first hot; then a moisture takes place; to this a most salutary sweat succeeds; by which all his complaints are relieved, the pain soon comes back to the usual parts, and presently all the other irregular symptoms vanish; insomuch that the patient, who a little before was given over for lost, shall in a few hours be out of all danger, with this inconvenience however, that he must commonly suffer a good deal from the sharpness of the gouty pains.

S E C T. MCCLXXXII.

ALL which, whoever rightly considers, will see the great and almost insuperable difficulty in curing this disease: the reason, likewise, why physicians and chemists of the greatest eminence have endeavoured to find a remedy to this disorder, in such things as entirely renew the blood and juices; why, and how far, milk conduces to this end; whether a specific acrimony conceived in the red blood is the mother of the gout; how *nodi* and *tophi*, gouty chalkstones, come to be generated; why a fit of the gout, without any swelling, is of all the most painful; why it is easier when the swelling appears; why the pain entirely ceases at last; why the intervals are the longest and easiest after the most sharp and painful fits; why, upon the pains growing less severe, the patient is hardly

hardly ever entirely free ; whether there be any alkaline absorbent, which can wholly extirpate the gout ; why the machine of *Sanctorius* is the best director and presager of what will happen, and of what must be done, to gouty people. But, in short, the gout, whether residing in the vital spirit, in the thin humour of the joints, or in the *semen* itself, is discovered only by its violent effects.

When all that has been hitherto said concerning the gout is duly considered, the difficulty of an entire and radical cure will appear abundantly evident : for during a paroxysm, to alleviate the pain, or even to take it wholly away, is not to cure the gout. Strolling quacks get the credulous sufferers to believe otherwise, and having touched their money, walk off, and give themselves no farther concern about the consequences. But, as *Helmont* very well says, the pain, the burning heat, the swelling, are not the gout, but only visible effects of it. He therefore, who imagines himself able to cure this distemper, must have the art to remove that predisponent cause, that morbid character which a parent transmits to his offspring, which sleeps as it were, and lies quiet, for a series of years, giving no manifest signs of existence, until, at a determined period of life, it is rendered so active as to occasion a very painful kind of disorder. This same predisponent cause may however arise in such as never had any of their family subject to the distemper, but who have perhaps indulged too freely in drinking and venery, or may have contracted it from many other causes already enumerated at § 1255 : yet the disease in itself, whether in those who have it by inheritance from their parents, and live soberly, or in others who have contracted it by the most dissolute way of life, is always
uniform

uniform and still the same. The paroxysms may be lulled to rest a long time by the use of a milk-diet; but yet that morbid character still remains, which, whenever the regimen is changed, awakens this paroxysm to a greater degree of severity than ever. Whence *Sydenham* says, § 1268, that a thorough radical cure of this distemper, by which the patient may be entirely secured from any possibility of the same returning, as yet remains concealed in *Democritus's* well.

What still adds to the difficulty of the cure is, that the gout afflicts mostly old people, as also that the patients are very seldom inclined to observe strictly the most salutary rules laid down to them by their physicians; of which *Aretæus* makes grievous complaint in the manner just now mentioned, at § 1268.

Why in such things as entirely renew the blood and juices, &c.] *Sydenham*, as we observed before at § 1260, thought, that in time the whole substance of the body might be converted into a kind of gouty *fomes*: therefore he has laid it down as a rule, that, *qui podagræ curam molitur, debere totius corporis habitum immutare, atque illud ad pristinam constitutionem refingere*, “he who attempts the cure of this disease, “must change the whole habit of body, and bring the “constitution back to its old salutary standard.” *Æginetus*, as we have seen at § 1261, was of opinion, that in this disease, the faculty which nourished all the parts of the body was wholly decayed; to restore which, therefore, was thought the only means to cure the distemper, and to root it out entirely. It is very well known what confidence the physicians placed in hellebore, as a powerful alterative in the most obstinate and difficult distempers, where it was necessary to change the prevailing habit of body. So *Aretæus*, § 1268, calls the *veratrum* an efficacious remedy, and recommends it to people in the gout. The chemists, as we have said in the same section, re-
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lied on the virtues of their *arcana*, which they believed could reach to the most intimate recesses of the vital spirit, and radically destroy the seminal character or disposition of the gout. Nothing sooner, or more effectually, produces a thorough change in the body, than some strong and sudden affection of the mind: and in this manner also we have instances of the gout's being cured. (See § 1258.)

Why and how far milk, &c.] This does not indeed destroy the morbid character, yet wards off the exciting causes, as it is an animal humour already prepared in the body, so may be easier digested and assimilated by weaker *viscera*, and thus is very well adapted for nourishment. Hence gouty people, whilst they continue to use a milk diet, remain entirely free from all attacks of the distemper; but so soon as they grow tired of this aliment, and betake themselves to any other kind of food, the fits return, for the most part, with much greater violence. See what has been said at § 1275, 7.

Whether a specific acrimony, &c.] At § 1263, it was said that too great an acrimony, joined to a visciduity of the humours, might justly be blamed as one cause of the gout. In the same section also we produced a very extraordinary example, to shew that an acrimonious matter might lie concealed a long time in the body of a gouty person, without being evacuated by any of the usual excretions, and accumulating more and more, might at last, as it were by one effort, and all at once, be expelled out of the body. But seeing the excessive use of sour white wines, and other acids, § 1255, are reckoned among the causes of the gout, and since the throwing up by vomit a most acrimonious acid matter, gave so sudden relief to a gouty person, almost distracted with pain, there is therefore no denying, that sometimes an acrimonious acid may prevail in this disease; and yet that this acrimony can by no means be reckoned

reckoned an universal cause of the gout, was formerly demonstrated, at § 1275, β : for sometimes there issues from the part affected a very foetid sweat, in no shape whatever acid, having the power to stain silver black, which is yet attended with considerable relief: in which case (see § 1261.) it appears that a septic acrimony is rather to be blamed.

How *nodi*, *tophi*, and gouty chalk-stones, come to be generated.] Concerning these, see what has been said at § 1261, where they have been considered at sufficient length.

Why the most painful, &c.] Because what occasions the pain, resides in the most minute vessels, which being distended, bring on the greatest torments: for, notwithstanding we rarely find that kind of gout where a paroxysm finishes its whole course without a swelling, it is however certain, that in the beginning of a fit there is neither swelling nor change of colour upon the part affected; and yet at this time the patient feels the highest degree of pain, which becomes easier as soon as ever the swelling begins to appear. In the tooth-ach, when the small *fibrillæ* of the nerves are dispersed through the substance of the teeth, occasioning the highest degree of torment, immediately as the cheeks begin to swell, the pain is in like manner relieved. See what has been said at § 1261.

Why at last the pain ceases entirely.] Whilst the strength remains entire, and of sufficient force to derive the morbid matter towards the usual places, the pains are then very sharp and strong; but when by old age, or long continuance of the disease, the powers are weakened, the patients then hardly feel pain, but are worn away with a kind of sickness: whence the ease they have at this time, from the pain, is no sign of the disease being diminished, but of their strength being impaired; as will farther appear;

pear, by turning back to what has been said at § 1261, and also 1273.

Why after the most sharp and painful fits, &c.] Because the whole morbid matter is discharged upon the joint, remaining there till it is maturated and rendered fit to be expelled entirely out of the body: and thus complete health returns, and there is a greater space of time required to collect again a sufficient quantity of matter to produce a new paroxysm.

Why upon the pain's growing less severe, &c.] Because the powers are not sufficient any longer to deposit the whole of the morbid matter upon the joints. Hence there remains behind some morbid *fomes*, which can no longer be entirely dissipated: whence they feel almost perpetual, though gentle pains, and only live, for the most part, to be miserable; till at length they fall away with weakness and perpetual sickishness, or the morbid matter lays hold on the *viscera*, and puts an end to their lives.

Whether there be any alkaline absorbent, &c.] The chemists, who are often too hasty in forming general axioms from a few particular experiments, when they observed the remarkable good effects of alkaline salts in a gout arising from the improper use of acids, immediately concluded, that any gout whatsoever might be cured by these alone. But we have already shewn, that an acrimonious acid does not always prevail in this distemper: and yet, at the same, we must allow, that alkaline salts may, by their gentle dissolving power, be of considerable benefit, even where there is no acrimonious acidity, as was observed at § 1275, β.

Why the machine of *Sanctorius*, &c.] Every one knows that *Sanctorius*, by means of a statical machine or chair, demonstrated how much a person in health perspired in a given time, and, from the quantity of increased or diminished perspiration, could determine what might be either hoped or dreaded, with

with regard to the prognosticks of diseases: But there being few who could either make a proper use of his machine, or even inclined to put themselves to that trouble, he has therefore very judiciously subjoined, at the same time, an account of the sensible changes produced in the body, in consequence of the perspiration being either too much increased or diminished, and which might be obvious to every one's capacity and observation. Thus any one who pleases to bestow a little attention, without having such a machine, may be sure to reap the fruit of *Sanctorius's* laborious observations, to which the ingenious *Lister*, *de Gorler*, and others, made afterwards so considerable addition and improvement. *Sanctorius*, at the same time, has marked out what particular meats and drinks, affections of the mind, &c. and how they influence insensible perspiration. Therefore a physician, or even the gouty patients themselves, may to very good purpose regulate the use of the non-naturals, according to the rules he has laid down.

But, that a free and easy perspiration is of the greatest consequence in the gout, appears evident from the whole history of the disease; for among the causes enumerated, § 1255, were reckoned watching, too great a quantity of good cheer, excessive venery, sweaty feet exposed too suddenly to cold: besides, if the symptoms, that usually precede a paroxysm, be considered, we shall find among them a good many signs of obstructed perspiration: and the same thing may be said of those mentioned § 1258, which were observed to accelerate a gouty paroxysm; for almost all these, according to *Sanctorius*, greatly diminish perspiration. Add to all this, that, as we observed before, § 1261, the gouty pain always terminates by a gentle moisture on the part affected: and at § 1272; it was shewn, that sudorifics, when skilfully administered, might be of very great service, which was still farther confirmed by what was said at § 1276.

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whence *Sanctorius* ¹ observes, *humores podagricorum, etiamsi crassissimi sunt, solum per modum vaporis resolvuntur*, “ that in gouty people, the humours, even “ of the thickest sort, were only to be resolved by “ way of vapour.” In the summer months it is, as favourable to perspiration, that old gouty veterans have their only enjoyment; they droop and languish at every other season: nay, we have seen in a former paragraph, that in order to recall a gouty disorder, which had gone inwards, back to the joints again, physicians had placed their sole hopes in the patient’s being laid up in a warm bed, well covered up, to procure a breathing sweat.

Whether residing in the vital spirit, &c.] It was before observed, that the morbid character lay concealed in the most subtle and finest of all our humours, in parts the smallest and most nervous. Hence *Van Helmont* says ², it fixes, and radically adheres to the spirit of life, and that it is secretly conjoined to the prolific matter of the *semen*. *Sub illo momento concubitus, podagræ character alioquin obdormiens in spiritu archæo, sub tanta libidinis agitatione excitatus, cum spiritu una semini contemperatur, anomalo plane modo, quod natura, tum regendis habenis impotens, non potuit cohibere, quin venenum characteris libidinosum semen fermentaliter inficiat. Itaque cum regulariter semen, sive character podagræ, spermatica contaminet; ideo quam promptissime synoviam, quæ nusquam solitaria occurrat, quam ubi duo ossa se mutuo tangunt. Hinc locus sive nidus podagræ in articulis.* “ At the very time of co- “ pulation, the morbid character of the gout, other- “ wise at rest in the spirit *archæus*, but now set a “ stirring by the libidinous agitation, is worked up “ together with the spirit and *semen*, in a manner “ altogether anomalous, which Nature, being no longer mistress, cannot by any means restrain so far, but “ that some of this libidinous characteristical poison

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¹ De Gorter de perspirat. pag. 209. No. 88.

² In capite, *Volupe viventium morbus*, pag. 314. col. 1. § 16.

“ shall, by way of ferment or leaven, infect the seed.
 “ Therefore, as the gouty *semen*, or character, of
 “ course infects all the spermatic parts, it will very
 “ readily fall on the *synovia*, which is no where to
 “ be met with so pure and genuine, as when two
 “ bones are almost joined close together. Hence the
 “ articulations furnish a proper residence or nest for
 “ the gout”. See what has been already said at
 § 1255, 1265, 1267.

DISEASES proper to VIRGINS.

S E C T. MCCLXXXVIII.

BESIDES all these different sorts of acute and chronic diseases, there are some proper to virgins, to women with child, women in labour, and after delivery, as also to infancy and childhood.

We have hitherto gone through the diseases of the solids as well as fluids, either simple or compound, acute or chronic. But yet, besides these, there are other disorders, peculiar only to that time of life when the body of a female is just ripe for conception; others again, which prevail through the whole time of gestation, from the moment of conceiving. Labour itself, however natural and regular, is often not without difficulty and hardship: and even after delivery there is a good deal of pains required, to restore the mother to such a state of health and soundness, as she may afterwards still continue fruitful.

New-born infants, also, are liable to disorders peculiar to their tender years, from which they are either altogether, or for the most part, exempted through the rest of life, their bodies acquiring after-

wards more and more firmness, and of course not so easily to be affected by these slighter causes.

Therefore, as we are to consider each of these separately, we shall, according to order, begin with that remarkable change observed in a female about the time of the first eruption of the menstrual flux, and consider the various disorders that either precede or accompany that discharge.

S E C T. MCCLXXXIV.

AT the time when the body of a female, of a sound healthy constitution, comes to a certain growth, there is usually more blood generated, than can be contained within the vessels, whence it is poured out at the extremities of the uterine arteries, and then obtains the name of menstrual flux.

In the human species, the females, as soon as they are fit for propagation, undergo a very remarkable and sudden change: they grow quickly taller; their breasts begin to swell up, and ripen like two sister-twins; all the marks of puberty appear upon the *pubenda*: from that opening too, which is the particular mark of distinction in the sex, the blood now finds its way; and in healthy young women, the same efflux returns at stated periods, which is called the menstrual flux, because in the space of a month it generally renews its appearance; in such a way, however, as some little variety may be observed in different young women, with regard to the intervals between each of these periods, though otherwise of the healthiest constitution: for sometimes the *menfes* flow twice a month, with some every three weeks, and with most every four. Nor is it ever observed, if virgins are otherwise in good health, that this variety,

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with

with respect to time, has the least influence on the fruitfulness, provided the periods themselves are constant, and always regular: for I have constantly remarked, that those females, who had been any way irregular in this respect, were never so fruitful, and always liable to miscarry. There is a like diversity observed, as to the quantity which comes away, corresponding to the disposition and make of the uterus itself. This is remarked by *Hippocrates*^w: *Mulieribus quibusdam quidem menstruæ purgationes abundanter quibusdam pauciores, expurgantur: quod si in natura & genere semper contingat (μηνρῶν σφιν ἔστω) ipsis uterinus est.* “The menstrual discharges in some women flow in greater abundance, in others again more sparingly: but if what flows be always of the same nature and quality, we may properly reckon it uterine.” Hence various names came to be given to this evacuation: from the most usual period it is called menstrual flux, *menstrua*, *menses*, & *catamenia*; as also monthly purgation, many believing that something noxious was, by this discharge, expelled out of the body: and several call them *flowers*, because in the vegetable kingdom, as these immediately precede the fruit, so the *menstrua* are in like manner the certain signs of fertility; for on their first appearance a virgin is reckoned fit for a husband, and then said to be marriageable.

The *menses*, for the most part, begin to appear at fourteen years of age, seldom before the thirteenth; and they generally cease to flow about the forty-fifth in some, however, they leave off sooner, in others later^x. All the time that the *menses* flow regularly, women are said to be fruitful; but upon their giving over, they are reckoned unfit to have any more children, because when once that periodical discharge

^w De natur. puer. cap. 10. Charter. Tom. V. pag. 323.

^x Mauriceau traité des malad. des femm. gross. Tom. I. pag. 49.

is entirely stopped, they are hardly ever observed to conceive: whence the duration of the *menstrua* seems exactly to coincide with the usual term of fruitfulness. In hot countries also we observe, that girls sooner have the *menstrua*, and in like manner sooner give over to menstruate. In the more northerly regions the very contrary obtains. Thus *Linæus*^y observes, that the women of Lapland have these discharges at a certain period, but in smaller quantity: several he has seen who never had them in their lives; but these, when married, always remained barren. Some young women he had known, who menstruated only in summer, and never in winter, which in these regions is commonly very long, and very rigid. Some again had this discharge only once a year; but all of these, whom he saw, were afflicted with oedematous swellings in their feet.

Notwithstanding, however, that the *menfes* usually begin at the time aforesaid, yet there are a few extraordinary instances of a discharge of this kind happening, even soon after birth. Thus we read of a young female infant^z having such a discharge on the eighth day after she was brought into the world; according to other accounts, on the third month only: but this same girl, at four years of age, was three feet and a half in length, with all the members in just proportion; her breasts and genitals were such as they are usually found in girls of eighteen, so that she appeared completely marriageable. I myself saw an instance, where the *menfes* broke out in a child only a month old, who, when she came to be seven years of age, had all the signs of maturity, and, though otherwise of a lax habit of body, yet enjoyed pretty good health, was married at nineteen, and afterwards bore several very healthy children. Various other instances of the like may be easily collected from

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^y Flora Lappon. pag. 324.

^z Acad. des scienc. l'an. 1708. Hist. pag. 63.

the Medical History; whence we need not be at all surpris'd to find the women of the East-Indies having children at nine years of age^a.

In like manner, the menstrual flux has been observed to continue much longer beyond the usual term, nay, even to return in decrepid old age itself without any bad consequence attending it. Thus *Daniel Perarius*, a physician at Genoa, writes to *Tho. Bartholine* the following particular, of which he acknowledges himself to have been an eye-witness *Mulier quædam octogenaria, a duobus circiter annis menstrua patitur, ἐντάλως, cum sanitatis commodo & εὐφροσύνῃ*^b. “A woman of fourscore years of age has
“ had her *menfes* for two years past, regularly and
“ easily, without the least inconvenience to her
“ health.” We read of another instance, where the *menfes* continued to flow to the age of an hundred and six^c. However, according to the common maxim, nothing like general rules can be form'd from instances which so very rarely happen.

Seeing then, that by the general law of nature, the *menfes* in women break out at a determin'd period of life, and that they cease spontaneously to flow at another determin'd period; physicians have been at the greatest pains to consider every thing that could serve to illustrate the cause of this monthly discharge and to determine the particular places from whence the blood at this time issues: for as this flux is not continual, but periodical, there must be, when the period is near, some particular changes made in the parts from whence it flows; but as there may be good reason to suspect, that in the bodies of those who die diseas'd, many things are changed by the nature and force of the distemper, so the fairest opportunity appears for an investigation of this kind from

^a Acad. des scienc. l'an. 1708. Hist. p. 63.

^b Tho. Barthol. epist. mod. centur. 4. pag. 432.

^c Acad. des scienc. in loco modo citatō.

from inspecting the bodies of such as, during their menstrual discharges, have been taken off by a sudden or violent death. *Columbus*^d would have it, that the menstrual blood came not from the vessels distributed to the womb itself, but from those *quæ in uteri cervicem ad ejus latera inseruntur*, “ which are “ laterally inserted into the neck of the *uterus* :” and somewhere else he says^e, *Quemadmodum sæpenumero vidi hisce oculis in aliquibus mulieribus quæ violenta perierunt, dum adhuc illis menses fluere, neque in his modo, sed etiam in aliis quibusdam, quibus instabant & mox fluxuri erant* ; “ As I have often seen, with my own “ eyes, in women who have suffered a violent death, “ while their *menses* were yet upon them; and not in “ these only, but in others, where the period was “ at hand and just ready to break out.” But this he thought that he had in a more particular manner observed in a woman, who was executed for the murder of her children, having a month before this borne twins, and soon as they were brought forth into the world, smothered them; for in her body he shewed, to a great number of spectators, that these veins, *quæ in aliis non admodum magnæ solent, esse insignes, nigerrimas, & propterea satis perspicuas*, “ which “ in others appeared of no remarkable size, were here “ very large, and of a very black colour, which made “ them the more distinguishable”. Whence he concluded, that the veins, through which the menstrual blood passes, had, by no means, any immediate connexion with the substance of the *uterus* itself.

There are other observations, however, and these indeed far more deserving of credit, which demonstrate plainly, that the menstrual flux proceeds even from the *uterus* itself, and particularly from those vessels which are distributed upon the bottom. Thus

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^d De re anatomica, Lib. XI. pag. 243.

^e Lib. VI. pag. 173. *ibid.*

Mauriceau^f, in examining the body of a woman, who during the time of her *menfes* was hanged for child-murder, found the whole cavity at the bottom of the *uterus* covered with little clots of coagulated blood; the vessels distributed upon these places were much larger than those which appeared on the neck of the womb, and their orifices, which opened into the cavity of the *uterus*, were plugged up with grumous blood. This also is confirmed by the observations of the celebrated *Litre*^g; for in the body of a woman who, having a conception lodged in the *tubæ falopiane*, died during the flowing of the *menfes*, he found the *uterus* pretty much swelled, and covered over with concreted blood, of a bright-red colour, which being removed, he could discern a great number of small *foramina*, that could easily admit a hog's bristle, each of which appeared to be filled with this same bright-red coloured blood, which, by pressing the substance of the *uterus* with the fingers, might be squeezed out in drops. He afterwards examined all the internal surface of the *vagina*, with the greatest care; but nothing like this could be found there; whence he concluded the menstrual flux to proceed from the cavity of the *uterus* itself, and not from the *vagina*. He also assures us, that he had seen the same confirmed by the dissection of several other bodies of women that died whilst under the menstrual discharges; and what seems to put this opinion beyond all question, in three cases of a *prolapsus uteri*, where the orifice of the *uterus* came down as far as the lips of the *pudenda*, he saw the menstrual blood issue out at the orifice of the *uterus*, while not one drop came from the cavity of the *vagina*.

That very accurate anatomist *Morgagne*^h accedes likewise to this opinion, having had occasion to see, in

^f *Traité des malad. des femmes grosses, &c.* Tom. I. pag. 48.

^g *Academ. des sciences*, 172, même page, 281, 282.

^h *Adversar. anatomic.* I. pag. 45, 46.

in a girl, who, from a stroke on the head, died suddenly during the flowing of her *menses*, the whole bottom of the *uterus* full of bloody spots, of which he has given us an engraven representationⁱ; from which spots, even with the slightest pressure, it was easy to procure some drops of blood: yet, neither in the *vagina*, nor in the neck of the *uterus*, could any thing upon examination be seen, that looked in the least like blood, issuing from the sides of these particular parts. Besides, in the bodies of several other women, which afterwards he had occasion to examine, and whose *menses* had, as he guessed, been lately upon them, he could perceive the same spots on the bottom of the *uterus*, of a fainter colour, from which he was able to procure some drops of a bloody tinge, but tried in vain to procure any thing like this from the neck, or from the *vagina*. Mean while, he is unwilling to deny but that there may some menstrual blood be also poured out from the sides of the *vagina*, since many authors of considerable name and credit affirm, that they had seen it; several of whom he mentions. Thus *Piso*^k has told us, that, *in puellæ, quo tempore menses fluere, strangulatæ cadavere, superioribus annis hic publice dissecto, observatus fuerit sanguine perfusus tinctusque menstruo, uterus autem prorsus siccus, & arte connivens*, “in the body of a
 “ girl that had been strangled during the flowing
 “ of her *menses*, and publicly dissected here some
 “ years ago, the inside of the *pudenda* only appeared
 “ to be moistened and tinged with menstrual blood,
 “ while the *uterus* was found entirely dry, with the
 “ sides pressed close to each other.” *Heister*^l observes, that in the body of a woman which he saw, that died during the time of her *menses*, the menstrual

ⁱ Ibid. tab. 3.^k De morbis ex colluv. serosa, sect. II. part. 2. cap. VII. pag. 131.^l Medicin. chirurg. anat. *Wahrnehm*, pag. 847.

strual blood issued both from the cavity of the *uterus*, and from the *vagina*.

Seeing, therefore, that according to what the celebrated *Winslow*^m has demonstrated, the membrane, which covers the bottom of the *uterus*, is perforated by a great number of small *foramina*, obvious even to the naked eye, from which, upon slightly pressing the substance of the *uterus*, the blood is easily forced out; if it is besides considered, that this same membrane is of a villous texture, resembling velvet, and that this villous surface, together with the *foramina*, are more or less tinged with blood in women who have died during their menstrual discharges; and lastly, if we add to these, that water or injections of coloured wax, when thrown into the arteries, come out at their extremities into the cavity of the *uterus*ⁿ; there seems to be good reason to conclude the internal cavity, and particularly the bottom of the *uterus*, to be the true natural place from whence the menstrual discharges originally issue. However, as the whole *pu-dendum* and *vagina* in women ouze out constantly^o a fine, soft, watery, serous liquor, from the extremities of these very little straight arteries, which open into them; and as they are provided with blood-vessels similar^p to that of the *uterus* itself; it does not seem at all improbable, but that even blood may sometimes issue out from the dilated extremities of these vessels: and in women with child, who during their pregnancy have these discharges in smaller quantity, it is perhaps from these vessels of the *vagina*, that the blood comes away without any inconveniency following; for if it flowed from the cavity of the *uterus*, a miscarriage would most likely be the consequence. I have had occasion to see many in the
situation

^m Exposit. anat. de la struct. du corps humain, pag. 574.

ⁿ Kaan. perspirat. dicta Hippocr. pag. 98.

^o Ibidem. pag. 96.

^p Eustach. tab. XIII.

situation above mentioned, who notwithstanding, at the due time, brought forth hale, strong, and healthy children.

What we have next to consider, are the different opinions that have been formed by the most eminent physicians, concerning the causes of this menstrual flux, and the reasons why, in healthy young women, the same flux returns at fixed stated periods.

Physicians, when they saw pure blood issue out in this manner from the soundest body, without the least detriment to health, but rather giving a kind of ease, and at the same time observed, that young girls grew sooner up to their due stature than boys; and that the menstrual flux gave the first signs of their fitness to conceive, and to nourish the *fetus* when conceived, all the time of its growing from a small speck, or first rudiments of a human creature, till at the end of nine months, having attained its proper size, it is at last excluded in the natural way of labour; and that all this increase of the *fetus* must be wholly nourished by the humours of the mother; it appearing plain, that a female body, besides itself, had to maintain another human creature, all the time of gestation; from all this, therefore, they concluded, that in women who were not with child, there must be more blood generated than was needful for their own nourishment, and that it was requisite this superfluous blood should be evacuated some other way, lest, by being accumulated, it might prove injurious to their health. *Aristotle*^a has long ago observed, that *mulieribus superfluum* (το περίττωμα) *in purgationem* (menstruam) *convertitur*, “in women, all
“superfluous blood is converted into menstrual pur-
“gation.” What farther confirms this opinion, mothers who suckle their own children, commonly never have these discharges during the whole time of giving suck; or if they have, it is at least at long intervals,

^aDe hist. anim. Lib. VII. cap. 2. Tom. II. pag. 365.

tervals, and only in very small quantity, because this superfluous blood is converted into proper nourishment for the child, namely, milk. Women, whose bodies are daily exercised in hard labour, menstruate but seldom, whilst, with such as live in an easy, plentiful way, the *menfes* flow every month, and sometimes sooner. This has been already taken notice of by *Moschior*, whom we shall have frequent occasion to mention hereafter. This author is a different person from that *Theodore Moschior* cited by *Pliny*, *Galen*, *Ætius*, *Alexander Trallianus*; for our author is much more modern, and published a book of midwifery, containing thirty-two chapters, translated from the Latin, for the use of the Græcian midwives, and as it contains several excellent things in that way, has therefore a place in most collections of books, on women's disorders, that treat, for example, of the particular symptoms and diseases, either of pregnant women, such as are in labour, or those who are recovering from child-birth. But since *Israel Spachius*, in the year 1597, published his collection, posterior to the two former ones by *Caspar Wolf*, and *Caspar Baubin*, and as it contains a good deal more, I have chosen, therefore, to follow his collection of books on female disorders^s.

Hence we see what a number of reasons there are, which might induce physicians to think the menstrual flux to be owing to a *plethora*. If there is then no *plethora* generated, as in women very robust, and inured to hard labour, then of consequence the menstrual flux may naturally, and without any inconvenience, be wanting. Of this sort are those of whom *Moschior*, in recounting the various causes of obstructed *menfes*, says, *absque ulla infirmitate natura-*

^r Spachii gynæceor. pag. 2. N°. 16.

^s Vid. fabric. bibliothec. græc. Tom. XII. Lib. VI. cap. 7. pag. 696, & seq.

^t Spachii gynæceor. pag. 11. N°. 126. & Harm. gynæc. part. poster. cap. 2. pag. 20.

turaliter non purgari, “that, without any infirmity or
 “prejudice to their health, have no such discharge
 “at all.” *Fernelius* affirms, that he saw a woman^u,
cui nunquam vel menses, vel aliud quidquam, fluxit ab
utero, ac nihilominus sana bene habita, prorsusque inco-
lumis, annos vixit circiter sexaginta; “who, notwith-
 “standing she never had any menstrual discharge, or
 “any thing like it flowing from the *uterus*, yet kept
 “very well in health, felt no inconvenience, and
 “lived to the age of sixty.” *Hildanus*^w cured a wo-
 man, forty years of age, of a grievous hurt by a fall,
 who declared to him, by all that was sacred, that she
 never had menstruated either during her virginity,
 or in her married state. Her *lechia* too, when in
 child-bed, flowed but very sparingly; for she had
 brought forth seven children, of which the greater
 part were then living, strong, and in sound health.
 She herself had been of a firm, robust make of body,
 hardly ever liable to sickness of any kind, and with
 a very scanty kind of spare diet, was daily obliged to
 go through a deal of hard labour; whence all oppor-
 tunity of a *plethora* collecting was entirely taken
 away. Thus we read of a country among the Tapuyas
 in Brasil, where the whole race of females, never in
 all their lives, have the least appearance of these dis-
 charges^x. And other travellers observe, that the
 women in some countries have them very sparingly,
 as the Laplanders, which we mentioned before. Many
 more examples of the like nature might perhaps be
 found in our own country, which, as *Pecklin*^y ob-
 serves, *quorum conscientiam sexus ille sibi reservat, non*
facile medicis, qui & ipsi plebeia non magnopere curant
in testimonium rei vocatis, “the sex keep to them-
 “selves, and don’t easily discover to physicians, who
 “are

^u Pathol. Lib. VI. cap. 16. part. II. pag. 197.

^w Oper. omn. observat. cent. V. pag. 4, 8.

^x Gualt. Charletoni de causis catamen. cap. 4. pag. 33.

^y Observat. physic. med. N^o. 35. pag. 83.

“ are themselves again unwilling to make such discoveries public, even where their testimony may be needful.” From a consideration of all these circumstances, the celebrated *Astruc*² was almost inclined to believe, that women, according to the primæval law of nature, were by no means subject to so copious a menstrual discharge, seeing that in countries where a scanty spare living obtains, they flow but sparingly, and in some never at all; but in nations more civilized, the fair sex live with more delicacy, in greater ease and abundance, enjoying all the luxuries of a plentiful table: hence a greater quantity of blood is accumulated, which, from the uterine vessels, flows regularly at stated periods.

In the mean time, however, the menstrual flux seems ordained by nature to happen at a certain time of life, not only to relieve the body of a superfluous quantity of blood, but also to dispose the *uterus* in a proper manner for conception. But whether the women, in countries where they never menstruate, do all nevertheless continue fruitful, is a question that may very well admit of doubt. The writers of travels often relate things only by hearsay, having, for the most part, neither opportunity nor inclination to examine properly into matters of this kind. *Linæus*, as we said before, found that the Lapland women menstruated in a smaller quantity; at the same time he remarks, that those who never had this discharge were always barren. As to that widow³, at forty years of age, who, though of a firm make of body, and very healthy, had felt no inconveniency from having never had the menstrual discharge; yet on a second marriage, at the first copulation, the *menfes* came down, and for two years together continued to flow regularly at stated periods, before she conceived: at length she was safely delivered of

² Traité des malad. des femmes, Tom. I. pag. 85.

³ Vid. Pechlin. in loco citato.

of a child, born at the full time, and gave three proofs more of her fertility, before age had put a stop to them altogether. Whence it seems reasonable to conclude, that the *plethora*, by the blood passing at the open orifices of the arteries, is greatly taken off, and therefore this discharge must be different according to the greater or lesser quantity of accumulated blood; but at the same time this dilatation and opening of the uterine vessels appears to contribute towards fertility, as we shall afterwards explain in its proper place.

Physicians besides imagined, that from the structure itself of a woman's body, there appeared sufficient reason, why this superfluous blood should be discharged by the *uterus*, rather than by any other part of the body: for if the bony fabric of a woman's *pelvis* be considered, we shall find it remarkably different from that of a man's, and a good deal more capacious. The *vertebræ* of the loins go farther backwards: the distance between the *os sacrum* and *os ileum* is greater; so is that between the *ilia*: the *os coccygis* is straighter and more flexible than a man's, which is bent a little more forwards; the bones of the *pubis* are joined to each other at an obtuser angle: besides, the protuberances of the bones of the *ischium* stand out from each other at a greater distance; whence the necks of the *femora* have a more transverse position, and make less acute angles with the *acetabuli*. Hence there is a larger space all about the female *pelvis*, than in the male, that the enlargement of the *abdomen*, in women with child, may be more firmly supported. This diversity of structure in the female body, painters and sculptors, who are skilful in their art, know very well how to express^b.

The *uterus*, which is wholly vascular, is situated in this broad ample *pelvis*, between the bladder and
rectum,

^b Vid. de his Herm. Boerhaav. instit. medic § 663.

rectum, almost entirely loose, and undergoing very little pressure: for the whole bottom of the *uterus* rises up into the *abdomen* in time of pregnancy, and in a *prolapsus uteri* often goes down so far, as to be protruded without the lips of the *pudendum*: besides the *uterus* may slide forwards, backwards and sideways, as we shall see when we come to speak of difficult labour. Now, although in young girls, and grown-up maids, the *uterus* is perceived to be firm and solid to the touch, yet the effects of pregnancy shew that the vessels can easily give way, and be dilated to a surprising bulk, as the *uterus*, at the end of gestation, appears like a sponge filled with blood, while the vessels, which before conception were hardly to be seen, can at this time sometimes admit the ends of the little finger. The *uterus* moreover receives a great number of arteries from the spermatics, hypogastrics, hæmorrhoidal and external iliacs. It is supplied by a like distribution of veins derived from the same origin, all destitute of valves, and communicating with each other; which is likewise the case with the uterine arteries, whence a free circulation of a larger quantity of blood is carried on without the least impediment. At the same time, the interior cavity of the *uterus* is pierced by these minute openings, which pour out a thin, soft, lubricating moisture, which waters the internal surface, and keeps the sides of the cavity from adhering together^c.

All these things, which regard the situation, vascular fabric, and ready expansion of the *uterus*, being clearly understood, it was next considered, that females sooner come to their utmost pitch of growth than those of the other sex, and yet their *viscera* still go on to extract from the aliments the same quantity of good nutritive humours as before, which, however, is no longer to serve the purposes of enlarging

^c Vid. de h's Herm. Boerhaav. instit. medic. § 664.

larging the stature of the body, as formerly; and since it is observed at the same time, that women's bodies perspire less than men's^d, hence it will follow that a quantity of wholesome sound humours must be stored up in the vessels, and so a *plethora* must be generated; useful indeed, where a woman, becoming pregnant, has not only her own body, but the child's, to support and nourish, but very hurtful, on the contrary, where this is not the case, were it allowed every day to increase in this manner, and no salutary outlet or provision made to carry it off, without injury to the body. Such a superfluity, therefore, is absolutely necessary, in order that a woman may always be in a condition to conceive and nourish the *fetus*: there must also be such outlets to carry off that superfluity, at the time when a woman is not in either of these situations.

Seeing then that the *uterus* is wholly vascular, placed in a loose free situation, easy to be dilated, and has a cavity fit to receive the superfluous humours, till they are afterwards expelled by the *os uteri*; hence therefore the vessels of the *uterus*, being gradually more and more distended, by the increased quantity of sound humours, are at length dilated so far, that their open extremities, which formerly transmitted only a dewy moisture, increasing now their diameters by degrees, send forth even the red part of the blood into the cavity of the *uterus*, and so the menstrual flux follows of course; the secretion and excretion of which is also greatly assisted by the erect manner of walking peculiar to females of the human species.

But after the *plethora* is once lessened by the discharge of blood from the *uterus*, the vessels, being no longer distended, contract themselves by their own effort into lesser diameters: in this degree of contraction they allow no longer the red part of the blood to pass, but only the thinner humours; and thus the

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^d Vid. de his Herm. Boerhaav. instit. medic. § 662.

minute extremities of the vessels which open into the cavity of the womb, return to their former dimensions, till the *plethora* being renewed by the same causes, they are again dilated at similar intervals of time. In this manner was the periodical return of the menstrual flux explained, which at the same time served pretty well to illustrate all those circumstances, which usually precede, accompany, or follow upon this discharge. Concerning all which the celebrated Dr. *Freind* has copiously treated^c, bringing it even to an exact calculation, how much is daily accumulated, in a female body, towards forming this *plethora*, which is to supply a sufficient quantity of menstrual blood, without prejudice to the body; what is superabundant, in women that are not pregnant, being thus thrown off, and gradually increasing again as it approaches the monthly period. Dr. *Freind*^f endeavoured farther to support his opinion, by observing, that where the *menstrua* were obstructed, the blood attempted to get out at various other passages, and that by similar means the *plethora* might be taken off at any time.

This manner of explaining the nature of the menstrual flux was thought so simple, so correspondent to every circumstance and appearance, and founded on laws common to all bodies, that it was received by numbers, as an account altogether evident, and the most agreeable to truth. In the mean time however, when all these arguments are again weighed and brought to the test, we shall perceive a number of difficulties yet remaining.

Those who deduce the cause of the menstrual flux from a *plethora* arising, for instance, in a girl's body, when she has arrived at her full growth, don't seem to have considered how frequently it happens, that girls grow remarkably taller and bigger after having had several regular periods of the menstrual flux.

^c Emmenolog. pag. 21, & seq.

^f Ibid. pag. 55.

flux. When I had read, about thirty years ago, that ingenious treatise on the system of the womb, by the celebrated Dr. *Simpson*, who makes the above remark, I was led to consider this more attentively; and from what I have seen since, am more and more persuaded of the truth of what he has there asserted; for after the first menstrual periods, there is, for the most part, a most remarkable additional increase to the body; though I have seen some, whose *menfes* had begun to flow only at eighteen, or later, who never grew one bit taller afterwards. I am likewise of opinion, that the increase of the human body, according to what I have observed, does not always proceed in so regular and gradual a manner, as is commonly imagined. That the human body, the nearer it is to its origin, has a proportional quickness of growth, the *fætus* sufficiently demonstrates, which in nine months time, from the smallest *molecula*, grows to so remarkable a bigness. But in the progress of life, I have seen great diversity, with regard to the degrees and quickness of growing. About the time of puberty, though in some later, there is frequently observed so sudden an increase of stature, that even in a few months, the body shall grow taller than it had done for two years together before that. It is very well known, that young people, when seized with feverish disorders, especially the acute sort, if they happen to escape, grow taller as they recover. This hath been explained from the force of the fever impelling the humours, and by that means stretching out and lengthening all the vessels, whilst the bones at the same time, not having as yet acquired the full hardness, easily yield to the same impressions. But when the disease is at an end, this cause of the sudden growth ought of course to cease; and yet, from what I have seen, the principal increase of stature has generally happened some time

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after, rather than during the continuance of the disease. I recovered a young man of sixteen years of age, rather very diminutive for his years, from the small pox which were of the distinct kind, though very numerous: the length of his body, during his illness, was increased somewhat indeed, though not very remarkably; yet the growth went on so fast, that when I saw him three years afterwards, I scarcely knew him, for he had not reached his twentieth year, and yet was grown six foot high. A few months ago, I took care of a girl in the small pox, of a mild sort, and not very numerous: there was a slight fever at first, when she was seized, which on the eruption went off, and never returned during the whole course of the disease: her body not only grew during her illness, but the growth went on for five months after it was entirely gone off, without any prejudice to her health, her stature and firmness receiving both a remarkable increase. Hence there appear to be other causes of the body's increase, which cannot be so easily explained by any thing, which as yet we know of the human body.

Another argument brought by Dr. *Simpson*^h, to prove that the menstrual flux does not arise from a *plethora*, is this: Dr. *Freind* supposes a *plethora* to be gradually accumulated, so much every day, between each menstrual period, relying principally on what *Sanctorius* has asserted, to wit, that even in men's bodies there is the increase of a pound weight or two every month. Now *Keill*'s tables demonstrate quite the contrary, to wit, that in healthy bodies there is no such daily equable increase of the humours, but that, on the contrary, the greatest variations take place here, with regard to the weight being either diminished or augmented; and no wonder, when we see so great a variety in respect to the quantity of food

^h System of the womb, pag. 6. & seq.

food taken down, and what passes out of the body, even in the healthiest.

Besides, if the menstrual flux depended upon the gradual accumulation of a *plethora*, the periods would be necessarily retarded, whenever the quantity of humours was lessened by any evacuation, or when this accumulation was hindered by starving or abstemious diet; whereas Dr *Simpson*ⁱ frankly appeals to the testimony of all physicians, the least conversant in practice, whether ever they have seen an instance where the periods have been kept back by letting blood during the intermediate intervals. Certain it is, that opening a vein in many diseased, or even in healthy women, who have been accustomed to let blood, rarely alters the usual periods. Nay, as I have several times seen myself, it has sometimes even accelerated them. *Hoffman*^k from repeated experience affirms, that, *etiam vulgo compertum esse secula ante tempus menstruorum vena liberiolem eorum fluxum fieri*, “it is a common thing to see letting blood, “before the usual period, occasion a freer discharge “of the menstrual flux.”

From a consideration of these difficulties, Dr. *Simpson* denies a *plethora* to be the cause of the menstrual discharge, and proposes another: for he thought that the body did not give over growing because the parts themselves gradually became firmer, and so were better able to resist any farther extension or elongation, but because the powers which served to elongate and extend were impaired in their strength: for as long as there is a greater degree of resistance towards the extremities of the vessels that are flexible, the liquors impelled through these vessels, by the force of the heart, will distend and lengthen them the more: and on the other hand, when there is less resistance, and the passage through these vessels

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ⁱ System of the womb, pag. 9.

^k Med. rat. & syst. Tom. II. pag. 464.

is freer, their distension and elongation must be less. Therefore he reckons the body then to arrive at its *acme*, or full growth, when all the vessels are in the freest, most pervious, and open state, and easily giving way to the impelled fluids: whence he concludes, that the growth doth not cease because the parts can no longer yield, but because the force and efficacy of the distending powers are lessened, or very much impaired.

He endeavours to support his opinion, by taking notice that in an adult, if there arises any obstacle to the free circulation of the humours from an obstruction in any of the *viscera*, then these *viscera* are immediately increased in their bulk, as in the liver, spleen, kidneys, &c. which appears from innumerable medical observations. So in steatomatous tumours, the more the matter secreted from the blood is accumulated in the follicle, the more it presses the neighbouring vessels: these vessels again increase in their size, the more they are distended by the impulse of the blood, thus hindered in its free circulation¹.

From these considerations, therefore, he concludes, that the menstrual flux itself is the reason why the *uterus* comes to its own full growth, and then gives over growing: for when once the blood is poured out into the cavity of the *uterus*, from the vessels which open either directly into it, or by means of the sinuses within its substance, then there is at this time the freest circulation of humours through the uterine vessels, and therefore the power which distends and lengthens the vessels, then ceases: but when the *uterus* is impregnated, the *chorion* and *placenta*, firmly adhering and growing to the internal surface of the *uterus*, stop up the free passage of the blood into its cavity, in consequence of which
the

¹ Simson's system of the womb, pag. 27, &c.

the *uterus* begins to increase anew, and acquires a most remarkable addition to its bulk.

Again he maintains the gradual increase of the *uterus* at first to be the cause of the irruption of the *menfes*: for there was always a secretion of thin liquid within the cavity of the *uterus*, to moisten it, and keep the sides from growing together. Now these minute exhaling vessels, being at first very small, and being more and more dilated as the *uterus* grows, transmit at last the red globules of blood: then begin the *menfes* to flow, which may very well happen without a universal *plethora* of the whole body. But as the blood has now a free passage through these dilated orifices, the resistance to the blood, propelled through the uterine vessels, is taken off; consequently the dilating cause ceases: they contract themselves by their own proper effort, till at length, allowing no more red blood to pass, they secrete only the finer liquids as formerly; hence the menstrual flux spontaneously ceases^m. From the same way of reasoning he explains why the *menstrua*, in strong robust women, give over sooner; because the texture of their vessels being firmer, while the dilating power is at the same time weaker, must occasion an earlier and stronger contraction of the vessels; while women, on the other hand, of a soft and delicate texture, have frequently a long and copious discharge. But since the contraction of the vessels, after the evacuation, puts a stop to the red blood, and makes the flux cease of course; here is again another cause, namely, the greater resistance of the vessels, which at a certain time, by gradually dilating these canals, must renew the menstrual flux, which therefore, on that account, will return periodically. The ingenious author however very candidly owns, he cannot so easily explain by this, why, in most women, the periods of the menstrual flux should return commonly

^m Simson's system of the womb, pag. 54.

at the distance of a lunar month from each other. The menstrual flux, according to this account, depends not on a *plethora* of the whole body, but rather on a particular *plethora* of the *uterus*, when so great a number of vessels, that were before only pervious to the thinner part of the blood, being now gradually dilated, admit the red blood itself; which dilatation, when it takes place at the open extremities, communicating first with the sinuses in the substance of the *uterus*, or more directly with the cavity of the womb itself, then the *menstrua* begin to flow: therefore it is plain, that before the flowing of the *menfes*, the vessels must be distended by a greater quantity of blood, and a lesser quantity will be carried back by the returning veins; and so a particular *plethora* may prevail in the *uterus*, even although there is no superfluity to be found in any other vessels of the bodyⁿ.

It must be acknowledged that most of the *phenomena*, with respect to the menstrual flux, seem to be more happily explained by this opinion, than by that which maintains an universal *plethora* to be the cause of that monthly discharge. Hence we are not to be surpris'd that this same opinion, of a particular *plethora*, should be embraced by several persons of the greatest eminence in the profession. Thus the celebrated *Astruc*^o, who has wrote upon this subject but very lately, adopts this opinion, though he explains it after another manner^p, and thinks that the menstrual blood issues out of the uterine veins by certain venous *appendices*, which he calls *cæcales*, and which, being corrugated at their extremities, retard the blood in its passage, but are forced open during the menstrual discharge, by the pressure of the accumulated blood in the uterine veins, which of course finds

ⁿ Simson's system of the womb, pag. 60.

^o Traité des malad. des femmes, Tom. I. pag. 39, 48.

^p Ibid. pag. 1, & sequent.

finds its way in this manner. But notwithstanding this explication may seem very ingenious, I must beg leave to suspend my assent, (under favour of so great a man, from whose ingenious writings I gratefully acknowledge myself to have received much useful instruction) since, at least, he has taken some things for granted, which do not seem as yet to be sufficiently demonstrated by anatomy.

I frankly acknowledge that our profession owes a great deal to mathematical and physical reasoning in general, by which the common properties of bodies are explained; and, provided the *data* are certain, the theory built thereon cannot be liable to any mistake. The laws of hydraulics may be very properly, on some occasions, applied to the human body, as it consists of canals, and liquids moving through them, having their sinuses, receptacles, &c. But yet I do not think that all the *phenomena* can be explained by hydraulics. Our canals have a living principle in them: they are indeed dilated by the liquids impelled by the force of the heart, and by their own elasticity return again to their former diameters; yet our vessels are acted upon by other causes besides these, that can neither be understood nor explained from hydraulics. Several ingenious men have endeavoured to determine the proportion the trunks of the vessels bear to the branches, and the branches to each other, and the diversity of angles by which the different branches go off from the particular trunks, &c. But even these are not sufficient to understand all the particulars to be observed in our bodies: by a change of thought alone, our canals are in a moment changed all of a sudden, so that they shall be quickly dilated, and contracted again as suddenly. We see a person in perfect health and tranquillity, when suddenly struck with terrour, quickly turns pale, and the blood vessels of his face, which formerly

merly allowed the blood to pass freely, now seem not to admit one drop.

Let any one throw out an immodest expression before a bashful virgin, not only her cheeks, but her whole face, neck and shoulders, grow intensely red. When any thing of a stimulating nature is applied, even externally to the body, the arteries immediately beat both stronger and quicker; concerning which effects we have already discoursed at § 382, in the History of Inflammations, and elsewhere. But even in the menstrual flux itself, how oft does it happen, when checked, as either by a sudden fright, or unexpected disaster, that it can hardly at all, or at least with the greatest difficulty, be again reduced to any regularity! These, and many other similar reasons, incline me to think, that all the things which happen in the human body cannot by any means be explained by the general principles of bodies, from knowing ever so well the particular structure of the parts: by observation alone we know that they are so, though how, or in what manner they come to be so, we are altogether ignorant.

For whatever opinion be received concerning the cause of the menstrual flux, whether an universal *plethora*, or that particularly of the *uterus* alone, or whether it depends on some peculiarity of its structure; still this difficulty will always recur, why the uterine vessels should be filled and distended, and then opening, should pour out the blood in this manner at a certain time of life, and not before, and why this evacuation should return again at so exact periods. The *uterus*, we see, even in virgins that have already menstruated, is firm and pretty solid to the touch; neither do they look as if they could be so easily distended. But as I have already remarked on another occasion, at § 1265, there are many such instances to be observed in the human body, where parts for years remained unaltered, and

then, afterwards, shall all at once begin to increase, and be quickly changed. The teeth, which appear at seven or eight years of age, or sometimes later, and which, in the jaws of abortions, we find already formed, grow slowly, when compared to other parts of the body, yet have a very sudden growth, when at their own proper season they are just ready to break forth. The little roots of hair lie long concealed underneath the skin of the *pubis*, without growing; but in both sexes sprout up and increase quickly at the time of puberty.

Certain it is, however, that the body, about the time it comes to be fit for generation, undergoes surprising alterations, insomuch that physicians entirely trust sometimes to the age of puberty alone, for the cure of several of the most obstinate distempers, which they never could obtain by the power of any other remedy whatever, as in the History of the Epilepsy, and many other places, we have already remarked. Physicians were by no means ignorant that such changes really happened at this time, but as yet no one whatever has clearly explained how these changes are brought about.

From comparative anatomy it appears, that in animals, when the season of generating approaches, and they swell with venereal rage, the genital organs are surprisingly altered. We have an account in *Reaumur*¹, from the observations of *Sarazinus*, of a rat, which, from the smell of musk issuing from it, is called the musk-rat. He gives an exact description of the structure of this animal's genitals at the time of their going to copulate, as they are to be seen, for example, in the months of April or May: for it was something curious to observe how the size of the testicles, *epididymis* and *vesiculæ seminales*, diminished in proportion as the venereal orgasm went off, and disappeared almost towards the middle of autumn, and

¹ Académ. des sciences, 1725. Mem. pag. 486, &c.

and the whole winter season, changing their colour, situation, and figure entirely. But it is also observed that in animals which generate only at particular times of the year, the *uterus* is surprisngly changed, sending forth a liquor from the *pudenda* frequently very copious, and sometimes mixed with blood; these animals being generally satisfied at that time with one or two copulations: in this case, therefore, we see the vessels must be dilated, and let humours pass, which could not escape before. Will any one pretend to explain *a priore*, how the vast number of yolks, contained in the egg-bed of oviparous animals, which before a hen begins to lay are hardly the size of a pin's head, shall afterwards increase so suddenly, not all at the same time, but in succession, so that in the belly of a hen that is laying we shall find eggs of different sizes and yet all these eggs are supplied with humours from the very same vessels? In fishes the small guts and roan, or heap of innumerable eggs, plump up their bellies at some certain seasons; at others they fall away, and almost entirely disappear: every kitchen may convince us of the truth of this. Whence the affair of generation, and all things pertaining thereto, seem not as yet to admit of any clear intelligible method of explication. From the faithful observations of several great men we have many valuable facts, but a knowledge of these facts does not yet appear sufficient to understand the manner how they come to be produced.

We see that a variety of very ingenious reasons for the menstrual flux have been proposed by several eminent men, well acquainted with the structure of the human body, by which some *phænomena*, though not all, have been pretty well accounted for. Let us then make use of such as are certain, and only take care that we build no practical rules on those that are dubious.

That

That the menstrual flux in women is a certain sign of fertility, all physicians are pretty unanimously agreed: it is observed naturally to flow at that time of life when the body is ready for conception, and able to contain and nourish the *fetus*; it leaves off again, when, through years, the body is no longer able to perform this office; and then women are said to be past child-bearing, But, as in both sexes the power of generation is not limited to a certain season, as in brutes, but is the same at all times of the year, hence the *uterus* in women is watered every month by the *menstrua*, whilst in brutes the *uterus* and *pudenda* throw out their humours only at that particular season, when they are stimulated by their venereal appetite: neither is that, which proceeds from them, purely bloody and unmixed, but is only seen sometimes of a bloody tinge, and that not constantly. But in a female of the human species, she is no sooner pregnant, than the *uterus* is gradually extended; nor does it appear the thinner from this extension: hence there must be a greater quantity of blood contained within its vessels, so that in the last months of gestation we see it resembles a sponge filled with that fluid; and therefore, in women that are fruitful, there must always be a quantity of blood ready to fill the enlarged vessels after conception; and lest this quantity of blood should overload the body when women were not with child, it was necessary to have certain outlets, by which it might always be commodiously evacuated.

The *fætus*, besides, inclosed within its membranes, is connected, indeed, to the whole interior cavity of the *uterus*, but more especially, by means of the *placenta*, adheres in a firmer manner to the bottom, to which this *placenta* commonly grows very fast. By this menstrual flux also, which, as we have already said, proceeds principally from the bottom, the sinules and uterine vessels are so disposed, as to allow the
placenta

placenta, to be, as it were, implanted in them. Whence, also, *Galen*¹ was of opinion that *id vero (conceptus) potissimum fit, quum menstrua novissime cessarunt, quo maxime tempore uteri semen concipiunt*, “ conception happened particularly when the *menstrua* were newly stopped, at which time they chiefly conceived the seed of the *uterus*.” The reason he gives in another place²: *Vasorum uteri, quæ internam ipsius partem adeunt, quibus etiam menses purgantur, oscula, quum fœmina conceptura est, aperiuntur: hoc autem tempus est, vel incipientibus, vel cessantibus, menstruis. Aperiuntur etiam alio toto purgationis tempore vasa hæc, non tamen tunc intra se concipit mulier; non enim semen in utero manere potest, quod ab influentis sanguinis copia abluatur. At cessantibus, vel incipientibus, menstruis, vasorum ora aperta sunt, et menstruum, neque multum neque affatim, sed paucum et paulatim, effluit.* “ The mouths of the uterine vessels, which go towards the internal surface of the womb, and from whence also the *menses* flow, are opened when a woman is about to conceive: but this only happens either at the beginning or end of the menstrual flux. They are also open during all the rest of the monthly purgation, though women, at this time, do not so readily conceive; for the *semen* cannot then remain in the *uterus*, as it must be washed away by the stream of menstrual blood. But when the *menses* are either going off, or beginning to flow, the mouths of the vessels are open; and they don’t flow too rapidly, or in any great quantity, but sparingly, and by gentle degrees.” The same thing, with respect to the menstrual flux, we read in *Moschio*³, that it prepares a fit and convenient place for the reception of the *semen*.

But as there are humours which flow down from the

¹ De femine, Lib. I. cap. 3. in fine. Charter. Tom. III. pag. 186.

² De uteri dissectione, cap. X. Charter. Tom. IV. pag. 281.

³ Israel Spach. gynæc. pag. 2.

the *pudenda* in brutes when the venereal rage is upon them, which, as we said before, do not at any other time appear, some have therefore imagined the menstrual flux to be chiefly owing to a venereal *stimulus*^a; for, according to them, something of the same nature happens here, as we see in the erection of the male *penis*, when it swells and becomes turgid, by the blood being extravasated in the *corpora cavernosa*, yet in such a way, that in the *uterus* the blood poured into its substance stagnates longer, not being so quickly taken up again by the veins as in the *penis*, when it becomes flaccid; and at length the muscular fibres of the *uterus* are by the quantity irritated, and contracting, expel the collected blood, by the orifices of the sinuses, into the cavity of the *uterus*. That easiness of distension, observed in the vessels and sinuses of the *uterus* in women big with child, was imagined greatly to favour this opinion, and what *De Graaf* mentions^w, *in uteri vasis sæpe reperiri polypos & quidem tantos, ut ipsa adimpleant, necnon quandoque in callosam quasi substantiam degenerent*; “that in the vessels of the *uterus*, “there are often found polypuses so large, indeed, as to “fill them up entirely; and sometimes they even de- “generate into a substance perfectly callous.” That the *uterus* can contract itself by its own proper effort, we even learn from what happens in childbed, (of which in its proper place) and that in the space of two or three weeks after delivery, notwithstanding it had been so much distended in the last months of gestation, it returns to its former size. *Hippocrates* has said^x, *Mulieribus plerisque, quum menses apparituri sunt, uteri os sese magis, quam alias, contrahit*, “That “with most women, at the time when the *menses* “are

^a Emett. theor. nouvelle du flux menstruel. pag. 77, &c.

^w De mulier. organ. pag. 113.

^x De superfœtatione. cap. 7. Charter. Tom. VII. pag. 364.

“ are about to appear, the *os uteri* contracts itself
 “ cloſer than at others.” By this then it would appear,
 that about the time of menſtruation the *uterus* had
 a ſtronger power of contraction, and of conſequence
 enabled to expel whatever ſhould be accumulated.
 To which may be ſubjoined, what is often obſerved
 by phyſicians, that virgins, who menſtrate with dif-
 ficulty, generally find great relief from matrimony.

From theſe, however, it does not clearly appear
 that the cauſe of the menſtrual flux depends upon
 an inclination to venery. A virgin come to maturity
 has equally the ſame appetite for venery when her
menſes are gone off, as when they were flowing. Do
 we not ſee, alſo, women paſt child-bearing, in good
 health and very laſcivious, notwithstanding their *menſes*
 have left them for ſome time? I have known many,
 who, though menſtruating very regularly, yet rather
 averſe to venery, have, with a kind of diſpleaſure,
 avoided the embraces of their huſbands. In the ſame
 way as the male *penis*, when ſwelled and turgid,
 grows flaccid, and ſhrinks up after coition; ſo the
clitoris, *nymphæ*, and *vagina*, when turgid and
 ſwelled, collapse in the ſame manner after the vene-
 real conflict. From the obſervations of *Ruyſch* and
 others, it appears that the Fallopian tubes grow
 turgid, and are drawn up in the act of venery, and
 afterwards return to their former ſtate of flaccidity:
 whence, if the *uterus* like them grows turgid, and
 inflamed with venereal deſire, what reaſon can be
 aſſigned why it does not as ſuddenly collapse, and by
 as quick a reſorption of blood into the veins, as
 is obſerved to happen in the other organs of both
 ſexes?

But as we are to diſcourſe, in a following para-
 graph, concerning thoſe diſorders which happen in
 conſequence of a diminution or entire ſuppreſſion
 of the menſtrual flux, it will not be amiſs to conſider
 whether the quantity of blood can be determined,
 which

which issues from the body of a healthy female at each menstruation: for *Hippocrates* has made the following observation^y: *Menstruis copiosioribus profluentibus morbi oboriuntur: at non prodeuntibus accidunt ab utero morbi.* “That where the *menstrua* flow in too great abundance, there other diseases frequently arise: but where they do not come away, there the *uterus* itself is liable to be disordered.” *Galen*, in his commentary on this aphorism, very well remarks, that *Hippocrates* presaged all the disorders of the body from an overflowing of the *menfes*, because the body, from a too great loss of blood, was thrown into cachexy; but when the *menstrua* did not come away, then the *uterus* was liable to disorders, either from the vessels being too rigid, or from the blood being in too great a degree accumulated within the substance of the *uterus*, or from both concurring at the same time together: and from thence he shews how inflammatory, schirrous, erisypelatous, and carcinomatous disorders may be apprehended^z; which disorders we see happen so frequently at that time of life, when the *menstrua* generally cease, and chiefly to those, who, having been accustomed formerly to have free and liberal discharge of that sort, find it stop afterwards all of a sudden.

Nothing certain, therefore, can be here determined, unless we could have an exact knowledge of the quantity of blood which a healthy woman evacuates at each menstrual period.

Mean while, from what has been said above, it is now pretty obvious that a great diversity, in this particular, must obtain, according to the difference of climate, habit of body, and various ways of living. The women in Lapland menstruate very sparingly; in hot countries, the *menfes* come away in great abundance: in a lax habit of body, these discharges

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^y Aphorism 57. Sect. V. Charter. Tom. IX. pag. 229.

^z Ibid. pag. 240.

are always more copious, while in women of firm robust frames, the quantity is very little. Those who live at their ease, and fare sumptuously, menstruate in large quantities, while the country peasant, hardened by daily labour, and fatigue, evacuates only a few drops, and yet enjoys very good health. The women in Holland, addicted all their lives to drinking great quantities of watery slops, and warming the inferior parts of their bodies in the winter time with stoves, are quite exhausted and languid, through the excess of these monthly discharges; and all of them contract, from thence, a very bad habit of body. It is no wonder, therefore, that we meet with so very different accounts in authors, with respect to the proper quantity of the menstrual discharge. Besides, the quantity of blood that comes away from any woman is difficult to be determined, as the clothes and linen are rather sooner wet with menstrual blood, than it is quickly dried up again by the heat of the body.

Hippocrates^a determines the quantity, as follows. *At omni mulieri, si sana sit, prodeuntes menses moderati sunt, qui ad duarum Atticarum heminarum mensuram aut paulo plus vel minus, idque ad biduum vel triduum manant: longius autem tempus, aut brevius, morbosum aut sterile est.* “ But in every woman, if she is in health, the *menses* come away in due quantity when they flow at the rate of two Attic heminae in two or three days, a little more or less: but if the time is much longer or shorter, it causes either disease or barrenness.” Now most authors take the Attic *cotyla* to be equal to the Roman *hemina*; but the *cotylæ* were also called pounds, which contained twelve ounces of measure, which were equal to ten ounces in weight, that is, the same weight with the Roman *hemina*^b. There have been disputes among

^a De mulier. morb. Lib. I. cap. 9. Charter. Tom. VI. pag. 734.

^b Jo. Casp. Eifenschmid de ponder. & mensuris, &c. pag. 74, & seq.

among authors, indeed, about these measures; but this last opinion seems to be very probable: and though there may be some difference between the Attic *cotyla* and Roman *hemina*, yet it does not seem to be very material, as to settling the quantity of the menstrual flux, which, ending this dispute which ever way you please, cannot even then be very exactly determined. We see, however, that most physicians have taken the quantity evacuated in this way to be about twenty or four and twenty ounces, whether they reckoned by weight or by measure. Thus the celebrated *Freind*^c reckoned the common quantity of menstrual discharge to be about twenty ounces, and then afterwards computed how much blood ought every day to be accumulated, in order to form this menstrual *plethora*.

But this quantity of the menstrual flux has by no means been received by every medical author; nay, some have differed widely from it: the celebrated *Astruc*^d, after having remarked the great variety, in this respect, to be met with in different women, and not only so, but that, in the same woman, the quantity varies at different times, is of opinion, however, that at a medium, the limits of this variation might be settled from eight ounces to sixteen; though there are also instances of women in very good health, who yet menstruate every month, some a greater, and some a lesser quantity than even this. *Haller*^e reckoned six or eight ounces the ordinary quantity of the menstrual discharge; and according to *Brudnell* *Exton*^f, it rarely exceeds four ounces. The celebrated *Du Hahn* took another method to determine the quantity of the menstrual discharge^g: he poured some fresh-drawn blood, while warm, the quantity of

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which

^c Emmenolog. pag. 38, & pag. 6.

^d Traité de malad. des femmes, Tom. I. pag. 22.

^e Prim. lin. physiol. § 817. pag. 539. ^f Pag. 103.

^g Rat. medend. Part. IV. cap. vi. pag. 204.

which he knew precisely, upon a piece of linen, then marked exactly how much of the linen it had stained. By repeating this frequently, he arrived to that degree of exactness, that for any wager he could tell precisely the quantity of blood received upon any piece of linen, and thus could justly determine how much blood came away from the *uterus* during the time of menstruation. *Invenit autem, nonnullas fœminas menstruo tempore tres uncias sanguinis dimittere, alias quatuor, quinque; pauciores esse, quæ semilibram; raras admodum, quæ uncias decem evacuerent, nisi uteri quopiam defectu laborarent.* “He
 “ found, however, that some women, during their
 “ menstruation, evacuated three ounces; others four
 “ or five; not so many who voided half a pound;
 “ and very few ten ounces, unless where the *uterus*
 “ was diseased.”

From these experiments it appears, that the quantity of menstrual blood is much less than that computed by *Hippocrates*: nay, this seems to be confirmed even by *Hippocrates* himself, where he says †, *Prodeunt autem lochia sanæ mulieri satis abunde, primum Atticæ heminæ & dimidiæ mensura; aut paulo copiosiora; deinde ad hujus rationem pauciora donec desinant.* “But
 “ in a healthy woman, the *lochia* flow in sufficient
 “ abundance, if at first they run at the rate of an
 “ Attic *hemina* and a half, or a little more; and
 “ so proportionally less afterwards, till they cease
 “ entirely.” Now no one, who has ever seen the *lochia* flow in child-bed, after the separation of the *placenta*, can by any means suppose the quantity of blood to be equalled by that of the menstrual flux. It is true indeed, that the Grecian women, living reclusely, and in a warm climate, might on that account menstruate more copiously: but since, almost all physicians have judged entirely from the quantity
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† De mulier. morb. Lib. I. cap. 71. Charter. Tom. VII. pag. 771.

of linen stained, and frequently trusted to the accounts only of the women themselves: an error of this sort might therefore very readily creep in here, and more especially as the women's nurses often shamefully exaggerate in cases of this nature. The same ingenious author has seen ⁱ *casus fuisse abortuum, in quibus jurabant obstetrices, plus octo vel decem libris evacuatum fuisse, cum tamen totum sordidarum mapparum acervum examinans, vix sesquilibram evacuatam esse, existimare debuerit*, "several cases of miscarriage, "where the midwives swore solemnly, that more than "eight or ten pounds of blood had come away, when, "upon examining the whole heap of bloody cloths, "there yet was no reason to think that above a "pound and a half had been evacuated."

From all that has been just now said, it seems reasonable to conclude, that the menstrual flux, in females of the human species, renders the *uterus* fit to conceive, to retain the conception, and to nourish what it thus retains: for when the vessels and sinuses of the *uterus* are every month opened in such a way, as to admit, and transmit the red, which is the thickest part of the blood, they are by these means rendered fitter to promote a more extensive application of the whole surface of the human *ovum* to the cavity of the *uterus*, and by sending forth the vascular shoots, connect it more firmly, and, as it were, radically implant it there. But still it is not easy to account for the stated return of the monthly period, either by a universal *plethora* of the whole body, or yet by a *plethora* of the *uterus* alone. Till we receive, therefore, farther knowledge concerning this affair, which is reserved perhaps for some future age, we must, as *Celsus* says, *obscuris omnibus, non a cogitatione artificis, sed ab ipsa arte rejeētis* ^k, "dis-
"missing every thing dubious from the art itself, yet
T 3 "not

ⁱ De Haen rat. medend. Part. IV. chap. vi. pag. 205.

^k Cels. de medicin. Lib. I. in Prefat. pag. 20.

“not from the thoughts of the artist,” be contented for the present to make use of what certainty there is. In the human species, a female continues fit for generation thirty years and more, and the *menstrua* give the first signs of fertility, as their entire cessation shews when this last is at an end. But seeing, in the human race, their generation is not limited to any particular season, the *uterus*, therefore, every month, is by the menstrual flux disposed in such a way, as to be always in readiness for conception. In brutes, though nothing like pure blood comes away, yet about their usual season of generating, there are certain humours begin to flow from the *uterus*, so as to moisten all the parts about the *pudenda*. We also read of a certain species of monkeys of a greater likeness to the human, in which the females are observed to menstruate¹; which *Kolbe*^m attests, as having been an eye-witness of it, and remarks at the same time, that these animals have a pair of breasts like women in the fore-part of their chest.

From what has been formerly said, the menstrual flux does not seem originally designed to remove or lessen the *plethora*, since, in persons who have no *plethora*, the *menfes* still happen at the ordinary time. But when the uterine vessels, being once open and dilated, allow the red blood to pass at their extremities, should a fullness prevail through the whole body, through an accumulation of blood, there will of course a greater quantity of it go out by these open passages, and so the *plethora* may be in this way relieved. Whence also we may understand why women, who live at ease and fare luxuriously, menstruate in greater abundance than those who are obliged, by hard labour, to earn a scanty subsistence to themselves and families. At the same time we may also observe, that a very small quantity of the
menstrual

¹ Gassend. in vita Peiresc. Lib. V. pag. 169.

^m Beschryving van de Caep de Goede Hoop. pag. 166.

menstrual flux, provided it is sound and good, suffices to keep a woman fruitful: for while the internal surface of the *uterus* remains in such a disposition, as readily to allow the human *ovum*, containing the young embryo, to be properly joined, and radically implanted in its substance, a woman will always continue fruitful. To this aptitude or disposition, the menstrual flux, though in small quantity, appears greatly to contribute: and in some very rare instances, several women have proved fruitful, even though they never had the menstrual discharge at all; instances of which are to be read in *Schenkius*^a and others. In the mean time, however, from what has been already mentioned, it appears that most of those women, who never had their *menfes*, were always barren. As to those particularly rare instances, it is most likely that their vessels were disposed in such a manner, as to be pervious indeed, and commodious for the reception of the human *ovum*, but yet not so far dilated as to allow red blood to pass: for it is often observed of women who are deprived of their *menfes*, that in place of blood, a small quantity of thinner liquid comes away at fixed stated periods. It is the same case perhaps with the *uterus*, in women who give suck, many of whom I have known conceive, though they have had no returns of the *menfes* since the time of their delivery. Daily experience shews what a remarkable correspondence there is between the breasts and the *uterus*. Thus in a virgin come to maturity, the breasts begin to swell, whenever the *uterus* is once disposed to menstruation: in child-bed, as the *lochia* on the third day are lessened, nay, frequently entirely cease, the breasts quickly fill, and if the woman suckles her child, the *lochia* return again, whilst the milk passes freely out by the nipples: but if she gives the child away to be nursed by another, the breasts subside, and what passes by

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the

^a Lib. IV. de conceptione, observat. 1. pag. 556.

the *uterus* is first whitish, and then afterwards of a bloody cast; so that, *cæteris paribus*, the *lochia* flow a longer time, and in greater abundance, with those who do not suckle their children. I have sometimes observed that in nurses, in place of their *menstrua*, a small quantity of thin whitish liquor has come away from the *uterus*, and upon a farther dilatation of the vessels, some blood has followed in several, though not in others. At this time also, it is probable, had they been put to their husbands, they would have been in all respects well enough disposed for conception: for according to *Galen*, as we mentioned before, conception chiefly takes place when the *menstrua* are recently stopped; for then those vessels upon the internal surface of the *uterus* are just so much contracted, as to exclude the red globules, yet open enough to let a thinner fluid pass: the same is the case, he says, in the beginning of menstruation. Whence, in nurses who conceive without any return of their *menfes*, it would seem that the *uterus*, with respect to its vessels, is in the same condition as when the *menfes* are about to flow, or beginning to give over; that is, the vessels not altogether contracted, but only so far as, in place of blood, to let only the thinner humours pass. Might not a like disposition have obtained in those extraordinary instances of women who conceived without having ever had the menstrual flux?

The signs, when the *menfes* are about to flow, are pretty well described by *Moschio*°. The breasts swell; a weight and an itching are felt about the *pubis*; they grow lazy; feel a heaviness, sometimes a pain in the back about the kidneys; they yawn and stretch every part of their body; a flushing in their cheeks comes and goes; and sometimes they have a loathing, with a desire to reach. These are the most common symptoms which usually precede or accompany, at first,

* Spach. gynæc. pag. 2. No. 21. and pag. 20. Harmon, gynæc.

first, the menstrual flux: in many, the muscles and tendons of the neck, becoming tense and rigid, are often very troublesome: and others complain of a head-ach.

The continuance of this menstrual flux is longer or shorter in different women, yet so as, in most, to be over in three or four days^p. It is also reckoned better where it drains away by degrees, and flows on without interruption, until it ceases entirely. Sometimes, however, it happens, that the *menstrua* shall flow two or three days, then stop, and presently afterwards return again; as I have more than once had occasion to see in women both healthy and fruitful; and the same has been also observed by the celebrated *Astruc*^q. Such women, however, experience this inconvenience, that all the other symptoms return, which usually precede the eruption of the *menstrua*, particularly a head-ach, and a troublesome stiffness in the neck, till the blood begins again to flow from the *uterus*.

Of what quality this blood is, which comes away by the menstrual flux, we may determine pretty justly, according to the authority of *Hippocrates*^r, when he says, *Prodit autem sanguis, qualis e victima, citoque concrefcit, si mulier sana est*, “The blood, “which comes off in this way, is like unto that “which comes from a victim, and coagulates very “soon.” Now we all know, that in their sacrifices, they made choice of the healthiest animals; and it is peculiar to the blood of a healthy creature, especially when it springs from an artery, quickly to coagulate.

This opinion is confirmed also by most of the best authors, who have wrote concerning the health and diseases

^p Spach. gynæc. No. 18.

^q Traité des malad. des femmes, Tom. I. pag. 23.

^r De mulier. morb. Lib. I. cap. 9. Charter. Tom. VII. pag. 735.

diseases of women^s. But when once the humours, thro' disease, become depraved, then it is no surprize to see the menstrual blood of a morbid quality; as also is the case, when the *uterus* or *vagina* are affected with any thing ulcerous. In the same way, when, either by the orifice of the *uterus* being some time contracted, the menstrual blood has been too long retained within its cavity, or lodging in a half-coagulated state about the inner plaits of the *vagina*, it begins soon to putrefy by the warmth of the parts and free admission of the external air, then afterwards changing from the nature of sound blood, it flows out in a sort of putrid nasty *liquamen*. The like may also happen, when women, not paying a due regard to cleanliness, neglect to change their clothes and bed-linen, especially in the hotter climates. But that the blood, as it comes away from the uterine arteries, is pure and wholesome, and that it may afterwards be liable to be corrupted, is certainly very obvious.

Hence, too, we may easily see what judgment we ought to pass concerning all those noxious qualities ascribed to the menstrual blood, and to menstruating women; as also concerning philters, and other superstitious remedies prepared from thence. *Columella* has asserted in his writings, that it is the very last, and when all others have failed, the most efficacious remedy to destroy the caterpillar, so pernicious to gardens, if a woman in her *menfes*, with her bosom uncovered, her hair dishevelled, and bare footed, shall walk three times round all the garden-hedge and every bed; for then,

———*Mirabile visū,*

Non aliter quam decussa pluit arbore nimbus;

Au

^s Mauriceau des malad. des femm. grosss. Tom. I. pag. 54. De Gruaf. de mulier. organ. 134, &c. Astruc traité des malad. des femm. Tom. I. pag. 23.

¹ Rei rustic. autor. Tom. I. pag. 732. Lib. X. v. 357.

*Aut teretis mali, vel testæ cortice glandis
Volvitur ad terram distorto corpore campe.*

——“ Strange to see,
“ As pippins, or as acorns from the tree,
“ When struck with hail, or sudden show'rs of rain,
“ From off the boughs are strew'd along the plain:
“ So strew'd along the ground, the vermin lie,
“ Rolling with pain, and in distortion die.”

Many other instances of the like nature are scattered here and there in different authors, a collection of which, if the reader shall think it worth his while, may be perused in *Ludovicus Bonaciolus* ^u. Such superstitious fables, however, which can only gain credit among silly old women, had better be delivered over to perpetual oblivion.

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IF this blood be retained within the body, supposing it to be in the condition (1284.) a *plethora* will arise, a sluggishness, heaviness, paleness, pains in the loins and groins; almost all the natural, vital, and animal functions will be depraved; which effects are easily deduced from the vessels being too much pressed by too great a quantity of liquid stagnating and choaking them up.

Notwithstanding it has been said in the preceding paragraph, that the menstrual flux is by no means produced by a universal *plethora* as a primary cause; yet, as a certain quantity of blood in a healthy woman must, by a law of nature, pass out in this manner, it is self-evident that a retention of the *menstrua* must increase

^u Ennead. mulieb. cap. III. Spach. gynæc. pag. 115.

increase the quantity within the vessels, and this sooner or later, in proportion to the usual abundance and scarcity of the *menfes*. But we have also seen, that notwithstanding it is sometimes called the menstrual purgation, yet what passes in this way from the uterine vessels, is nothing but sound pure blood, and no ways of any noxious quality whatever. When, therefore, a larger quantity of sound blood is accumulated, by the retention of the *menstrua*, in a greater proportion than what the common and unavoidable changes of life can admit, without inducing disease, then a *plethora* is said to exist, as we have already explained at greater length, at § 106.

Sluggishness, heaviness.] For these are the effects of a *plethora*, as we have remarked, § 106, ε. *Galen* ^w, recounting the signs of a suppression of the *menfes*, reckons, *gravitatis sensum in toto corpore*, “a sense of weight over the whole body.” And *Hippocrates* says ^x, *Molli carne præditæ mulieri, ubi sanguine corpus impletum fuerit, nisi ab ipso decesserit, carnis impletis, et calefactis, dolor critur*, “In a woman, whose flesh, is soft and tender, if the body is full of blood, and it don’t go off in some way or other, the flesh, being stuffed up and heated, will therefore occasion pain:” for plethoric people, in all the muscles of the body, perceive a soft swelling, with plenitude and distension, and a kind of immobility, so as they can hardly clinch their fingers, as we have before mentioned in the *diagnosis* of a *plethora*.

Paleness.] Amongst the signs of a *plethora*, was reckoned a redness in the face, eyes, and lips; nay, sometimes, in very plethoric persons, the skin, even over all the body, grows intensely red; and therefore it may seem strange that paleness should follow upon a suppression

^w De locis affectis, Lib. VI. cap. 5. Charter. Tom. VII. pag. 524

^x De mulier. morb. Lib I. cap. 2. Ibid. 729.

suppression of the *menfes*. But as to this, it is to be remarked, that many times the *menfes* are suppressed in virgins quite pallid, in whose bodies there is hardly any red blood at all, as appears upon opening a vein, in order to empty the vessels: for then a small bit of red slough only, is to be seen swimming in a very large proportion of *serum*. Physicians, however, of prudence and sagacity, in the cure of obstructed *menstrua*, are careful to distinguish properly, whether the disorder arises from the *menfes* being really suppressed, or whether the want of that discharge is owing to any other present or preceding disorder: for in the former case, a *plethora* will follow, and their colour look red; but in the latter, they are altogether pale, and of a bad habit of body.

Hence there is great diversity obtains, with regard to the method of cure; for a *plethora* indicates the opening of a vein: a bad habit of body, frequently of some considerable standing, requires other remedies.

But there is likewise another reason why paleness may attend a suppression of the *menfes*, even where a *plethora* really exists. It is very well known that good sound blood, when drawn from a vein, and left to stand in a clean vessel, separates into two parts, to wit, into a thin liquid *serum*, and a thick coagulated red part. If all this *serum* is poured off, in a few hours after, a fresh quantity of *serum* will be seen, the red part gradually dissolving, the greatest part of which may be thus converted into a yellow, or greenish yellow coloured *serum*.

Now the vessels, when too much distended by a *plethora*, lose part of their force, by which they used to act upon their contained liquids: hence the humours being not so well worked up to a proper density in these very vessels, the red part of the blood may even be dissolved down into a *serum*; whence the redness

of the body will gradually decrease, and change into a paleness. To this we may add, that if there is a *plethora*, it will naturally seek out a passage for itself by the dilated vessels, which not being as yet able to obtain, the vessels and sinuses of the *uterus* will, however, be more and more dilated; whence the pain of the *uterus*, and parts adjoining, will necessarily be occasioned, as we shall presently see. But the same thing happens, in this case, with that which *Hippocrates* apprehended so much in women with child^y, as we have mentioned on another occasion, at § 69. *Cum in utero gerat mulier, tota fit cum virore pallida* (χλωρη) *quod purus ipsius sanguis quotidie distillet, et ad fœtım feratur, illique incrementum fiat; et pauciori in corpore sanguine existente, eam ex viridi pallidam esse, necesse est.* “When a woman is with child, she
 “becomes pale and green, (χλωρη) because her good
 “blood passes from her every day gradually, and
 “is spent on the growth of the *fœtus*: having less
 “blood in her body therefore, she must of necessity
 “look pale and greenish.”

Pains of the loins and groins.] As the sinuses of the *uterus*, being very numerous, and dispersed through its whole substance, grow turgid with the accumulated blood, the vessels which run in between them, must necessarily be compressed; whence the vessels in the neighbourhood will be more filled, and from this fullness be more distended: hence that sense of weight at first, and a disagreeable pain afterwards, which so often precedes the menstrual flux. All these bad symptoms increase, if the blood at this time does not find an outlet by the *uterus*^z. There is a pretty curious observation, which confirms the truth of what has just now been said. A woman about fifty years of age, who died a violent death, had

^y De mulier. morb. Lib. I. cap. 32. Charter. Tom. VII. pag. 74^o.

^z Symson's system of the womb. pag. 40.

had lived nineteen years in the married state without ever conceiving. Her *menstrua* came away but only in small quantity, and about that time she was always miserably swelled up, and had most excruciating pains in her belly: for some years after the first eruption of the *menfes*, she was accustomed to have bleedings at the nose, and frequent spitting of blood. Upon examining her body, it was found that the membrane, which covers all the internal surface of the *vagina*, had shut up the orifice of the *uterus*, adhering as firmly to it as to the *vagina* itself. This membrane was perforated by two small openings, only about the fourth part of a geometrical line in diameter; but as to the neck of the *uterus*, it was twice as long as what is usually observed, and much thinner, being stretched out by the distension of the collected blood; which distension, however, it is very evident, must have been attended with extraordinary pain and uneasiness^a. Whence *Hippocrates*^b has said, *Quum menfes latuerint, dolor detinet inum ventrem, illique pondus incumbere videtur, lumbi et ilia dolent*, “When-
 “ ever the *menfes* lie concealed, a pain fixes in the
 “ lower belly, and a heavy weight seems to lie upon
 “ it, and pain is felt in the loins and all about the
 “ *ilia*.” He makes the like observation in another place^c; but there he says that the loins and *ilia* are most cruelly pained; then adds, *Si vero menfes omnino non fluant, pro morbo crassi, lenti, & glutinosi, redduntur*,
 “ If the *menfes*, however, do not flow at all, the
 “ humours, in proportion to the disorder, become
 “ thick, clammy and glutinous;” and therefore very apt to stagnate and be corrupted in the vessels and sinuses of the *uterus*; all which are still rendered worse, the longer they continue. Whence, *postquam duo aut tres menfes prodierunt, interdum ei per pudendum*
menstrua

^a Academ. des sciences, l'an. 1704. hist. pag. 33.

^b De natur. muliebr. cap. 18. Charter. Tom. VII. pag. 689.

^c De mulier. morb. Lib. I. cap. 6. ibid. pag. 732.

menstrua confertim erumpant, et, quæ prodeunt, ut carunculae esse videntur, velut ex corruptione, & nigrae sunt^d, “ at the distance of two or three periods, “ sometimes the *menstrua* break forth all of a heap “ from the *pudenda*, and what comes away seems to “ be like clots of corruption, and quite black.”

But that this arises from the blood being accumulated either in the cavity or vessels of the *uterus*, is plain from thence, that such a woman, *prægnans esse videatur, et in viri congressu doleat, ut putet quid incumbere, & pondus aliquid in ventre inesse*^e, “ looks as if “ she was with child, feels pain and uneasiness in the “ conjugal embraces, imagines herself oppressed with “ somewhat, and that something of a solid heavy “ lump is lodged, as it were, within her belly.” But should the *menstrua* be longer suppressed, then he remarks, a suppuration is to be apprehended^f. *Id vero maxime accidit si a febre exusti fuerint. Signa vero sunt si purulenta fuerint: dolores enim ad imum ventrem irruunt, et pulsationes vehementes; neque contactum sustinet. Quod si melius habitura sit, menses ei per pudenda erumpunt, pusque & sanguis fertur.* “ This, “ however, chiefly happens from the heat of a burning fever. Now there are certain particular signs “ when they become purulent; for the pains all fall “ upon the lower belly with violent pulsations, nor “ can they bear in the least to be touched. But should “ she happen to recover a little better health, the “ *menses* break forth by the *pudenda*, where blood and “ corruption pass out together.” Then he adds, that an ulcer in the *uterus* is to be much apprehended, and should the swelling continue very long, the woman, even though the ulcer may be cured at last, will always remain barren. But if this purulent and corrupted matter does not get a proper outlet from the *uterus*, *tunc circa lateris mollitudinem pus colligitur,*

^d De mulier. morb. Lib. I. cap. 6. Ibid. pag. 732.

^e Ibidem. ^f Ibidem, cap. 4. pag. 731.

*tur**, “then the *pus* gathers all about the soft vil-
“ lous part of its sides.”

These are the principal disorders which happen to the *uterus*, when the *menfes* are suppressed. But as the hypogastric arteries give branches, not only to the *uterus*, but likewise to the neighbouring parts, therefore, when a free passage is denied by the uterine vessels, those of the neighbouring parts will of course sustain a greater pressure, and be more distended; consequently other new symptoms will arise. All these are accurately described by *Hippocrates*^h, who thus concerning a suppression of the *menfes* says: *Quum autem agitatus et secretus sanguis non exeat foras, sed in uteros uterique non hiarint, tum sane, diutius immorante sanguine, uteri incalescentes calorem reliquo corpori præbent. Quandoque etiam sanguinem in venas corporis transfundunt, ut & venæ impletæ doleant, & oedemata excitent. Nonnunquam vero ex eo claudicationis periculum impendet. Quinetiam interdum vesicam obfident, premuntque, & claudunt, stranguriamque adferunt. Quandoque vero uteri, sanguine pleni existentes, aut ad coxendicem, aut ad lumbos, procidunt, doloresque exhibent. Aliquando vero, ubi sanguis quinque aut sex menses in utero immoratus est, putrescens, pus fit, & quibusdam pus per pudendum exit, nonnullis etiam in inguine velut tuberculum oritur, ibique pus factum foras prodit.* “But
“ when the blood, now set in motion and secreted,
“ does not go out of the body, but remains within
“ the *uterus*, in which if there should be no open-
“ ing or outlet, then indeed the *uterus*, being heated
“ by this quantity of blood remaining some time
“ within its cavity, will impart this heat to the rest
“ of the body. Sometimes it may even throw its
“ blood into the other veins of the body, so as, from
“ this fullness of the veins, to occasion pain and
“ oedematous swellings: and there is great danger,
VOL. XIII. U “ sometimes,

* De mulier. morb. Lib. I. cap. 5. pag. 732.

^h De natura pueri. cap. 4. Charter. Tom. V. pag. 313.

“ sometimes, of lameness from this very cause. This
 “ is not all, for now and then it bears hard upon the
 “ bladder, and by pressing and shutting up its ori-
 “ fice brings on a strangury. Sometimes, also, the
 “ *uterus*, thus filled with blood, falls over upon the
 “ haunches, or towards the loins, creating great un-
 “ easiness: and at other times, the blood, when it
 “ has remained five or six months in the *uterus*, pu-
 “ trefies, and is changed into corrupted matter,
 “ which, in some women, is evacuated by the *puden-*
 “ *da*. In others there is something like a tubercle
 “ arises in the groin, where corruption forms, and
 “ from whence it is also evacuated.” The like effects
 are also in another place recounted by *Galen*¹.

Wherefore not only the *uterus*, we see, and parts adjoining to the *uterus*, are in a grievous manner affected by a suppression of the *menfes*, which may easily be deduced from the vessels being too much pressed and choaked up by the great quantity of stagnating liquid; but also the whole body is disordered, in such a manner as, from this very cause alone, we may observe that

Almost all the natural, vital, and animal functions [shall be depraved.] On another occasion, we took notice, at § 1224, that from the observations of *Tabarranus*, a most ingenious anatomist, there appeared to be a very free communication between the veins and cavity of the *uterus*: for upon blowing into the veins, he observed the cavity of the *uterus* and *vagina* to be filled with air, and again blowing air into the orifice of the *vagina*, he saw the veins belonging to the *uterus*, *vagina* and *ovaria*, all swell up. When, therefore, the *uterus* is in a sound condition, there must be a very quick and easy resorption by the uterine veins.

It

¹ Comment. tert. in librum Hippocr. de alimento, Charter. Tom. VI. pag. 270.

It would seem therefore, that *Hippocrates*, from this easy resorption, had taken his proofs of fertility, when he says ^k, *Mulier si utero non concipiat, scire autem velis an conceptura sit, vestibus obvolutam subter suffito: atqui si odor quidem ad nares & os usque per corpus tibi pervadere videatur, ipsam nosce per se infæcundam non esse.* “ If a woman has not conceived, and you have
 “ a mind to know whether or not she will conceive,
 “ apply some perfume, wrapped up in her clothes, to
 “ the parts below: and should you perceive the
 “ smell pervading the upper parts, and to proceed
 “ from her mouth or nostrils, then be assured she is
 “ not barren on her own account.” Hence it is very evident, that should the purulent corrupted humours, by stagnation, settle here, they may, from being resorbed, bring on the worst of cacohymias, and so disorder every function: the same thing must also happen, from a translation of matter that has been so resorbed, to all the various parts of the body. This *Hippocrates* ^l seems to point out, when he is treating of what happens, *si menses mulieri quidem prodeant, verum pauciores, quam conveniat, ferantur*, “ when a woman’s menses appear indeed,
 “ but come away in a smaller quantity than is proper;” for then he makes the following remark. *Dolet alias atque alias corpus, maximeque lumbos, & spinam, & inguina, manuumque & pedum articulos. Neque hæc simul dolent, sed vicissim; quocunque secretus sanguis, qui uteris inesse nequit, impetum fecerit, & quacunque parte decubuerit, tumor existit.* “ The body is pained in different
 “ ways, chiefly about the loins, back-bone, groins,
 “ and joints of the hands and feet. Nor are all these
 “ parts pained at the same time, but by turns; and
 “ wherever the secreted blood, which cannot be
 “ contained in the uterus, forces its way, or on what-

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“ ever

^k Aphor. 59. sect. V. Charter. Tom. IX. pag. 231.

^l De mulier. morb. Lib. I. cap. 7. Charter. Tom. VII. pag. 733.

“ ever part it happens to fall, there a swelling will
 “ take place.”

But there is also another reason why the natural, vital, and animal functions of the body may be disturbed from a diseased *uterus*. On another occasion, at § 701, when treating of the *delirium* in fevers, it was demonstrated, that the common sensory might be so affected by other injured parts of the body, as if the physical cause pre-existed in the brain itself, when yet the origin of the disorder might lie in parts very remote. This is what *Helmont* calls *actionem regiminis, qua una pars corporis paret alteri*, “ the action of the *regimen*, or governing principle, by which every part of the body is consenting to another.” At the same time it was shewn, that *Hippocrates* had given manifest hints concerning this action; and from many practical observations we also demonstrated, that certain parts of the body, when disordered, had really a most powerful effect upon other parts at the greatest distance; and, it is evident, not by any communication or propagation of morbid matter by means of vapours proceeding from the part first affected, as the schools used to explain it, but only by the wonderful power of some certain parts of the body over others. In the same place we remarked, that it was sufficient to physicians to be certain that such things really happen in the human body, and that they need not therefore be ashamed to acknowledge an ignorance of the manner by which these are brought about. It is, without doubt, of the greatest service to the art, to be well informed what parts of the body act in this manner upon others, and what parts are again influenced by them; which, as we have said before, is also acknowledged by *Hippocrates* ^m. *Corpus autem ipsum sibi ipsi idem est, & ex iisdem constat. Etsi non eodem modo se habent ejus partes magnæ & parvæ, itemque superiores & inferiores;*

^m De locis in homine, cap. 1. Charter. Tom. VII. pag 358.

feriores; si quis tamen interceptam corporis partem minimam male afficere velit, eam affectionem, qualiscunque tandem fuerit, totum corpus sentiet; propter quod minima corporis pars eadem habet omnia, quæcunque et maxima. Eaque minima pars, quicquid tandem pertulerit, ad cognationem & gentilitatem refert, (πρὸς τὴν ομοειδίαν) unaquæque ad suam, sive bonum sive malum, id fuerit, ac propterea corpus ob minimæ partis cognationem tum dolet, tum oblectatur, quod in minima parte omnes insint, easque ad ea, quæ sui sunt generis, singula transferunt; & omnia denunciant. “ For the body is of a piece with
 “ itself, and consists of similar parts. Though there
 “ is some difference between these parts with regard
 “ to size, as being greater or lesser, or to situation,
 “ as being superiour or inferiour; yet if any one,
 “ by intercepting the least part of the body, vex and
 “ disorder it, the body shall soon feel the effects of
 “ this injury, of whatever kind it is, because the
 “ smallest part of the body has all the requisites of
 “ life and sensation in common, and alike with the
 “ greatest. And this smallest part, in whatever way
 “ it is affected, will have a reference, (πρὸς τὴν
 “ ομοειδίαν) on account of its sympathy, to its original
 “ affinity and connexion, every part to its own
 “ respectively, whether good or bad; and thus the
 “ body will feel pleasure or pain, because the least
 “ partakes of all, and each of these again transmits
 “ their feelings to parts peculiarly allied to itself;
 “ and thus all are made to participate alike.”

Now, if we consider what a surprising alteration there is in the whole body at the time of puberty, when the *uterus* begins to be changed, that many diseases lessen, nay, sometimes, even entirely go off on the first periods of menstruation, and the whole brain is sometimes disordered in a wonderful manner, as in the *furor uterinus*, when a virgin of the most virtuous education, laying aside all shame, shall, as if out of her senses, rush on to men's embraces, till she retire rather

fatigued than satiated with venereal enjoyment: all these, I say, and many more which might be added, serve to shew the surprising power a diseased *uterus* has, to change and disorder every function of the body. Whence *Helmont*ⁿ, after observing that an asthma and cough are sometimes produced from the *uterus*, *actione regiminis modoque pene influentiali, ad nutum iræ, tristitiæ, pavoris, &c.* “ by the action of
 “ the governing principle, in so powerful and al-
 “ most instantaneous a manner, on the least motion
 “ of anger, grief, or fear, &c.” then adds, *Nec enim uterus vaporibus tenus, sed mero regiminis imperio, totam regit mulierem; cum sit peregrini hospitis instar, a corpore non nisi alimentaliter dependens; prout viscus ab arbore, cui innascitur. Cæterum uterus quadra vivit propria, nullumque sibi, præter animi pathemata, hostem novit. Quapropter non servit animæ; sed in importunum perturbationibus animum, non secus ac in corpus, furiendo sævit, &c.* “ For it is not so much by way of vapours, but
 “ by the mere force of this consenting or governing
 “ principle, that the *uterus* rules the whole woman;
 “ seeing it is, as it were, a stranger guest only depend-
 “ ing on the body for its nourishment, as the bark up-
 “ on the tree to which it is connected. Moreover, the
 “ *uterus* has a peculiar mode of subsisting proper to
 “ itself, wherein nothing is so hostile and disagreeable
 “ to it, as the passions of the mind: wherefore it is
 “ not so much under the direction of the mere vital
 “ principle, but, besides the influence it has upon
 “ the body, domineers with a kind of furious rage
 “ upon minds of very quick sensibility, &c.”

That all these bad symptoms may happen to the *uterus*, from a suppression of the *menfes*, is confirmed from the observations of *Hippocrates*, for he says^o, *Menfes non supprimi, utile: ex talibus comitiales morbi fiunt*

ⁿ In capitulo asthma & tussis, N^o. 13, 14. pag. 289. & in capitulo de conceptis, pag. 484. N^o. 18.

^o Coac, prænot. N^o. 522. Charter. Tom. VIII. pag. 252.

fiunt ut arbitror: quibusdam ventris subductiones diuturnæ; quibusdam autem hæmorrhoides. “ It is of great
 “ advantage not to have the *menfes* suppressed, for
 “ when they are so, they may, as I apprehend, be
 “ the occasion of sudden disorders, such as the epi-
 “ lepsy, falling sickness, &c. with some they occa-
 “ sion constant looseness; with others they bring on
 “ the piles.” And even in another place, where,
 speaking of female disorders^p, he says, *morborum omnium uteri causæ sunt*, “ all their disorders spring
 “ from the *uterus*.” And a little after, he subjoins,
 that when the *menstrua* are suppressed, *pleni uteri coxendices contingunt, & ad coxendices & inguina dolorem adferunt, ac tanquam pile in ventre discurrunt, caputque dolore afficiunt modo quidem altera parte, modo vero totum*, “ the *uterus*, from its fulness, bears upon the
 “ haunches, and causes pain all about these parts, and
 “ about the groins, like a large ball working up and
 “ down the belly: it affects the head too with a pain,
 “ sometimes in one side, and at other times all over
 “ the whole.” Much the same symptoms, from a
 suppression of the *menstrua*, are to be seen in Galen^q.
Signa sunt gravitatis sensus in corpore, fastidium dejecta cibi appetentia, horror inæqualis, alienorum quorundam cupiditas, &c. ac terram, aut extinctos carbones, aut quædam hujusmodi, edunt, &c. præterea & lumborum, & colli, & syncipitis, dolor, & oculorum baseos, item febres ardentes, & urinæ nigricantes, &c. quibusdam urina supprimitur omnino, aut difficulter redditur, &c.
 “ The signs are, a sensation of heaviness in the
 “ body, loathing, total loss of appetite, an unequal
 “ horror at times, a longing for things improper,
 “ &c. a fondness of eating earth, cinders, and the
 “ like, &c. besides, there is a pain in the loins,
 “ neck, forehead, the bottom of the eyes, also hot,
 U 4 “ burning

^p De natura pueri, cap. 18. Charter. Tom. VII. pag. 376.

^q De locis affectis, Lib. VI. cap. 5. Charter. Tom. VII. pag. 524.

“ burning feverishness, with blackish-coloured urine,
 “ &c. some have an entire suppression of urine, or
 “ pass it with great difficulty, &c.” Whence *Celsus* ^r
 also concludes, *quibus fœminis menstrua non proveniunt,*
necesse est, capitis acerbissimi dolores sint, vel quælibet alia
pars morbo infestetur, “ that women, whose *menses*
 “ do not come rightly away, must either have very
 “ cruel head-achs, or some other part very much dis-
 “ ordered;” thus marking out the most usual symptom
 which attends an obstruction of the *menstrua*, namely,
 the head-ach, and acknowledging that extensive in-
 fluence the *uterus* has over all the parts of the body.
 But as the celebrated *Astruc* very well observes ^s, that
 in a hysterical girl, there is not any very grievous
 hurt or disorder in the *uterus* absolutely requisite to
 cause all this disturbance, for even the slightest change
 will do, as either, for instance, from a quick reple-
 tion, or as sudden a depletion of the vessels, and
 other such causes of a milder nature; whilst, on the
 contrary, a cancrus ulcer wasting the *uterus*, ex-
 cepting the pain, shall not disturb the other parts of
 the body so much, provided the greenish-coloured
sanies, that proceeds from such an ulcer, shall have a
 free outlet, without being resorbed by the veins.

What surprising disorders, however, do sometimes
 happen, in consequence of a suppression of the
menses, the following case will shew. A girl of seven-
 teen years of age, who had begun to menstruate re-
 gularly at fifteen, having been thrown into a sudden
 fright during the flowing of her *menses*, with the
 unexpected death of one of the best of fathers, was
 taken with an extraordinary flooding, attended with
 fainting and tremors: she afterwards grew tolerably
 well again, and continued so to the next term, when
 her *menses* scarcely made their appearance; and the
 period following, they stopped altogether: then the
 hysteric

^r Lib. II. cap. 7. pag. 59.

^s Traité des malad. des femm. Tom. IV. pag. 62, 66.

hysterical paroxysms came on more frequently, and with greater violence, and with manifest convulsions. She was afterwards blooded, and had a vomit given her, which in a few days was again repeated: but there immediately came on a difficulty of swallowing, and at length she could let nothing down whatever, which, whenever she but attempted to do, that moment she was seized with convulsions and tremor, with a reciprocal distension of her chest and lower belly, which at last ended in universal spasms and cramps. For a whole month she lived without taking either meat or drink: her physician attempted to make her swallow a spoonful of anti-hysterical julep, which went down about two inches in the *œsophagus*, where it was stopped by a spasmodic contraction, and immediately followed by the severe cramp. Having in vain administered several other remedies externally, he tried to force the passage with a bit of sponge, fixed to the end of a piece of whale-bone, which being performed twice, he got the better of the spasm, and the patient could then swallow equally, without uneasiness, any thing that was offered, whether solid or fluid. The freedom of deglutition continued about three weeks, though every thing came up she took, excepting cherries, strawberries, and an anti-hysterical julep, all which remained upon her stomach: a greenish-coloured matter came up sometimes along with what she vomited. Her belly being astricted, laxative glysters were therefore injected, which was followed by a copious discharge of blood by the *anus*, insomuch that in a couple of days she evacuated about two pounds. This evacuation of blood was stopped, by means of an astringent vulnerary injection; but in a short time after, the spasm of the *œsophagus* returned, and quickly increased to such a degree, that all power of swallowing was entirely taken away; whence, for fifty-four days, she tasted neither meat nor drink;

during all which time she had frequently much severer attacks of the cramp than formerly, and while the fits continued, lost the use of her senses entirely. After three or four weeks total abstinence from meat and drink, she grew blind; and a little after, she was seized with deafness; yet by her touch she could distinguish her friends, so as to call them by their names. A month after, her sight returned, and afterwards her hearing, both indeed to full perfection. The power of deglutition returned likewise, and she could drink some small-beer or milk-whey; but there followed a *delirium*, which lasted only about an hour or two: apples or pears she could eat, boiled or raw, but no bread, or any thing solid. Had any thing she ordered been denied, or the least delay made in bringing it, she was immediately thrown into a fit of the cramp. She was some time after obliged to keep her bed perpetually, and every eight or ten days taken up to have her bed made; and even then, the moment her body was stirred, a fit of the cramp seized her, which did not go off till she was again replaced in the bed. A hard kind of swelling rose up about her ears. Some months after, she recovered so far, as to be able to sit up straight for some hours in a chair, and to eat vegetables of any sort; but had a thorough aversion to all flesh-meats and broths.

During the time of her abstinence from meat and drink, she had a nourishing glyster injected once, rarely twice, every day: but even these were obliged to be laid aside for four and twenty days together, as the least motion of her body brought on a very severe fit of the cramp. Her pulse, during her abstinence, was full, strong, and equable, though a little slower than the natural; her breathing free, and urine good. At length, after having for two years suffered all these mischievous disorders, in the most easy death imaginable,

nable, she went off all of a sudden, as she was conversing in company with her friends †.

Many other cases, nearly a-kin to this, may be seen in the Medical History^u: but this I principally made choice of, to shew how, from a suppression of the menstrual flux alone, all the natural, vital, and animal functions might happen to be depraved.

S E C T. MCCLXXXVI.

THE blood, from being thus accumulated, frequently opens to itself the most surprising passages, generally considered as very uncommon outlets to the *menstrua*; for they have been observed by physicians to force their way by the eyes, ears, nostrils, gums, salivary glands, *œsophagus*, intestines, bladder, breasts, skin, and through particular wounds and ulcers.

From a vast number of very faithful observations, it is certain, that the blood, on account of suppressed *menstrua*, being retained, and so of course accumulated within the body, frequently finds out to itself the most surprising outlets. This indeed is, for the most part, accounted for from the vessels being greatly distended by the *plethora*, and sometimes breaking, or even, without breaking, being dilated so far as, by means of *anastomosis*, to allow the blood to pass: and yet from thence there does not appear a sufficient reason why this should more frequently happen from a *plethora*, occasioned from a suppression of the *menstrua*, than from blood accumulated in the body from any other cause. It was said above, at
§ 1284,

† Medical Essays and Observat. Vol. V. part. 2. pag. 471, & seq.

^u Act, erudit. ann. 1726, pag. 525, & seq.

§ 1284, that the cause of the menstrual flux could not be solely deduced from a *plethora*, seeing bleeding between the periods hindered not the *menstruation* from appearing at the usual time. The very same cause which opens the uterine vessels (which I frankly own I know nothing of) might have the very same effects, if applied to the other vessels of the body. That this cause however, of whatever kind it may be, must lie in the vessels themselves, independent of the heart's peculiar action, is pretty demonstrable: for notwithstanding the heart goes on in a regular course of action, yet there is sometimes to be observed, in particular arteries, a disturbed motion, which frequently precedes hæmorrhages, concerning which we had often occasion to speak in the History of Acute Distempers. Thus a pulsation perceived in any ulcer, declares a hæmorrhage to be near at hand: a pulsation in the left *hypochondrium*, as oft precedes a copious bleeding at the nose, with persons otherwise in very good health. Solano de Lucque has taken notice, that in diseases, a rebounding pulse foretels a critical hæmorrhage at the nose. Physicians, by his example, have been incited to observe, with all their attention, the particular changes in the pulsation of arteries, in order to discover some certain prognostic signs relative to health, as well as to particular diseases. Thus the pulse, called the uterine pulse, which usually precedes the menstrual eruption, is described in the following manner^w. *Pulsus ille plerumque est magis elevatus & expansus quam antea; simul est inæqualis, & dicrotus; licet illud dicrotum, nec adeo frequenter, nec adeo distincte, percipiatur, quam in pulsu nasali; tamen est satis sensibile.* “ This pulse is more raised than at other
 “ times, and more expanded; is unequal and re-
 “ bounding, though this rebounding is neither so
 “ frequently, nor so distinctly to be felt, as in the
 “ nasal pulse, (or that which presages the bleed-
 “ ing

^w Recherch. sur le pouls par rapport aux crises, pag. 95.

“ing of the nose;) but yet it is pretty observable.” An anonymous author remarks, that this uterine pulse is more easily to be perceived on the approach of the first period of the *menstrua*; as also in elderly women, at the time when the *menstrua* are beginning to leave them. Not long ago, as I was feeling the pulse of a maiden lady of distinction, above five and forty years of age, I thought I could perceive this uterine pulsation; wherefore I asked her, whether the time of her usual periods was not very near: she replied, that three months had passed since she had seen any appearance of them. I was hardly returned to my own house when I received a line to let me know that the *menstrua* had begun to appear, which, for some days, went on to flow in great abundance, as it frequently happens to do at this time of life. The same author likewise remarks, that this pulse is not always to be perceived after the first periods of the *menstrua*, even though they are very near; seeing that in very many they flow with the greatest ease, without almost any previous sign whatever.

The ingenious *Camus* * testifies, that he has felt this uterine pulse much in the same way, but describes the rebounding in a different manner; for he thought that the artery, during the time of the *diastole*, did not strike the finger twice in the same place, but successively at two different points.

In a preceding paragraph we mentined that wonderful and sovereign power with which the *uterus* acts upon other, and even very remote, parts of the body. If then the vessels of the *uterus*, when irritated and disturbed, are not able to send forth the menstrual blood into the cavity of the *uterus* by reason of too great a resistance at their extremities, why may not they, by means of this same sovereign power, communicate a like disturbance to the vessels of all
the

* *Memoir sur divers sujets de medicine*, p. 258.

the other parts of the body? *Hippocrates*^y remarks, that the blood is considerably disturbed (*αἷμα ταρασσεται*) even as it is collected, and passes freely away, every month; and therefore pain and uneasiness must be the consequence when the *menstrua* do not come away. *Quum autem agitated & secretus sanguis minime foras, sed in uteros feratur, uterique non hiant, tum sane diutius immorante sanguine, uteri incalescentes calorem reliquo corpori excitant.* “ But when the blood, “ now set in motion and secreted, does not go out “ of the body, but remains within the *uterus*, in “ which if there should be no opening or outlet, then “ indeed the *uterus*, being heated by this quantity “ of blood remaining some time within its cavity, “ will impart this heat to the rest of the body.” Afterwards, in another place^z, where he is discoursing of the inconveniencies arising from too sparing an evacuation of the *menstrua*, he marks out the different parts of the body which are from thence apt to be affected, and adds as follows: *Neque hæc simul dolent, sed vicissim, quocunque secretus sanguis, qui uteris inesse nequit, impetum fecerit, & qua parte corporis decubuerit, tumor existit:* “ Neither are all these parts “ pained at the same time, but by turns; and where- “ ever the secreted blood, which the *uterus* is unable to contain, shall force its way, and upon what- “ ever part of the body it shall happen to fall, there “ a swelling will take place.” I had occasion to see a girl, about the time of whose menstruation there appeared in her neck a red and painful swelling, about the size of an egg, which, in a few hours after the *menstrua* began to flow, disappeared entirely. The celebrated *Hoffman*^a, before he enters upon his discourse on hæmorrhages, remarks, that every severe kind

^y De natura pueri, cap. 3. Charter. Tom. V. p. 312, 313.

^z De mulier. morb. Lib. I. cap. 7. Charter. Tom. VII. p.

^a Med. rat. system. Tom. IV. part. 2. in præfat.

kind of hæmorrhage, *præcedere constrictionem spasticam vasorum per habitum corporis, cum alvo plerumque stricta, urina tenui, & pariori perspiratione: postea celerior & vehementior arteriarum motus, & ad certam partem directum impetus, consequitur*, “is preceded by
 “a spasmodic constriction of the vessels through
 “the whole habit of body, with a costiveness, for
 “the most part, of the belly, limpid urine, and diminished perspiration: afterwards there follows a
 “quicker and more violent motion of the arteries,
 “with its principal *impetus* directed towards some
 “particular part.” Now, as we observed before from *Hippocrates*, at § 1284, *mulieribus plerisque, quum menses apparituri sunt, uteri os sese magis quam antea contrahit*, “that the orifice of the *uterus*, in most
 “women, at the time when their *menses* are about to
 “appear, contracts closer than at any time before;” yet, as we shall afterwards see, when we come to treat of difficult labour, when the orifice of the *uterus* begins to be contracted, the whole *uterus* also successively contracts itself in like manner; whence, if the menstrual blood is not squeezed out by this motion into the cavity of the *uterus*, then the *impetus* comes to be directed elsewhere, and there follow, sometimes, very wonderful hæmorrhages, all owing to this governing, or consenting, principle; by which, as we have said before, a disordered *uterus* may act upon all the other parts of the body.

Nor are there examples wanting in the medical art to shew, that such an action really takes place *in distans*, as the schools say, or remotely and at a distance. On another occasion, when treating of the methods of checking a spitting of blood, at § 1200, we took notice, that the most obstinate hæmorrhage at the nose would cease immediately upon four folds of linen being dipped in the coldest vinegar and water, and applied round the whole *scrotum*. We read of a
 similar

similar remedy in that book ascribed to *Galen*^b, where he orders the testicles to be held in the strongest vinegar to stop an obstinate bleeding at the nose.

It now remains to see by what parts of the body the blood, upon a suppression of the *menstrua*, sometimes procures itself a passage. It is true, indeed, that in men, from a simple *plethora*, there has sometimes, though very seldom, been observed a periodical evacuation of blood every month, proceeding from the surface of the skin without any previous hurt. Thus we read of a very surprising case in *Marcellus Donatus*^c, taken from *Beneventus*, of a man thirty-six years of age, of a very strong robust habit of body, who voided every month about a pound of blood from his right side or flank, and upon pressing the part with the finger, and then afterwards removing it, the blood issued out with much the same force as upon opening a vein: when this flux gave over, the skin was so entire, that no one could distinguish the place from whence the blood had issued. By bleeding at the arm every month he got quite well in about half a year. But, as we said before, though a *plethora* may be taken off by opening of a vein, yet the menstrual flux is never hindered from appearing at the usual period; for which reason we see that such excretions of blood as go out by these unusual passages, on account of suppressed *menstrua*, hardly ever yield to venæsection, but are only to be cured when we bring back the menstrual blood to flow again, as usual, by the *uterus*, at stated periods.

Very frequently the upper parts of the body are oppressed by the blood, when it cannot at the usual time find a passage by the vessels of the *uterus*; as we have already said on another occasion at § 1017, when discoursing of the apoplexy. Strange disorders of the head

^b De dynamidiis, Lib. II. cap. 14. Charter. Tom. X. p. 680.

^c De medic. histor. mirab. Lib. I. cap. 2. p. 11.

head, and founding of the ears, as *Hippocrates* observes, precede an eruption of the *menstrua*; and they come forth whenever a heat, as it were, arises in the backbone, which declares that the branches of the *aorta descendens* begin to be more distended; but even then it was observed, that the blood went off by various passages.

By the eyes.] In a virgin of seventeen years, full of flesh and blood, and of a warm habit of body, whose *menstrua* had not as yet made their appearance, drops of a bloody-coloured tinge began to distil pretty fast, like tears, from her eyes. Bleeding in the ankle was here of great service, which soon after was followed by a regular monthly purgation^d.

Ears.] We read of an instance in a religious nun, who not having her *menstrua* as usual, a quantity of blood issued out every month by her ears and eyes^e.

Nostrils.] Daily observation makes it manifest, that, both in a state of health, and also in many diseases, the blood-vessels of the nose are disposed in such a way as easily to be dilated, and thus, by pouring out their blood, can either relieve the body when oppressed with too great a quantity, or lead off, along with it, by that outlet, whatever is noxious or diseased, from the body. There is no hæmorrhage, however, happens more frequently in a suppression of the *menstrua*, or is more salutary and safe, than that from the nose: whence *Hippocrates*^f, from the same signs, expected either a hæmorrhage from the nose, or an eruption of the *menstrua*. In another place therefore he says^g, *mulieri menstruis deficientibus, sanguinem ex naribus bonum*, “it is a good
“ sign when a woman, whose *menstrua* are obstructed,
“ bleeds at the nose.”

Gums, salivary glands.] These too have been
X observed

^d Medic. observat. exempl. rat. Dodon. cap. 15. p. 27.

^e Shenck. observat. med. Lib. IV. p. 635.

^f Predict. Lib. I. N^o 145. Charter. Tom. VIII. p. 796.

^g Aphor. 33. sect. 5. Charter. Tom. IX. p. 214.

observed to yield a passage: nay, even there is an instance, where, upon pulling out one of the *dentes molares*, a quantity of blood, equal to that which formerly used to come away by the *uterus*, was evacuated afterwards, every month, at the place from whence the tooth had been pulled^b. In the same book also are to be seen several other curious accounts relative to uncommon and surprising passages of the *menstrua*. The blood, in the instance above, was evacuated from the mouth; but it is also spit up by the same passage when it proceeds from those vital organs the lungs. There is in this case, however, more danger considerably, as we formerly observed, on another occasion, at § 1198, d. 1. and is confirmed by *Hippocrates*, where he saysⁱ, *Quibusdam mulieribus, quum bimestres menses copiosi in uteris extiterint, ubi intercepti fuerint, ad pulmones feruntur; his omnia contingunt, quæ in tabe dicta sunt, nec superesse possunt.* “In some women the
 “ *menses*, when they have been stored up and inter-
 “ cepted in the *uterus* for two months together,
 “ are at last carried to the lungs: all that are said
 “ to happen in a consumption befall these women,
 “ nor are they ever able to survive it.” But it is plain, from what is also said at this particular place, that such effects are chiefly to be apprehended, when there is a gathering or stuffing in the lungs: for when this blood by *anastomosis* is evacuated by a *hæmoptoe*, then this evacuation of blood by the lungs may go on for several years without any detriment to the health. Nay, *Bennet*^k, who was so conversant in these sorts of disorders, lays down the following maxim: *Si critice, & per transumptionem, hæmoptoica pulmoni supervenerit affectio, tuto non raro, & cum totius adjumento, res succedit*: “That if the lungs are seized with
 “ this spitting of blood, critically, and by transump-
 “ tion,

^b Schenck. observat. medic. Lib. IV. p. 633.

ⁱ De morb. mulier. Lib. I. cap. 4. Charter. Tom. VII. p. 731.

^k Tabid. theat. p. 107.

tion, it is very often a safe and successful relief to the whole body."

Oesophagus,] and from thence into the stomach; nay, from the stomach itself also; seeing that the vessels of the stomach are very numerous, and abundantly easy to be dilated: when the blood, however, is collected there, it is either evacuated by vomiting, or by stool. *Hippocrates*, speaking of suppressed *menstrua*, says ¹, *Vertuntur etiam ad vomitum, & quibusdam ad sedem, &c. hanc autem viam minus mulieribus, quam virginibus menstrua efficiunt*. "They are also thrown up by vomit, and in some pass by stool, &c. they take this course, however, more frequently in virgins than in married women." On the other hand he remarks ^m, *mulieri, sanguinem vomenti, menstruis erumpentibus solutio fit*, "that the flowing of the *menstrua* shall take away a vomiting of blood." An instance of such a periodical vomiting of blood was observed by *Stalpart van der Wielen* ⁿ, in a girl formerly a servant in his father's family, who, at the time of every menstrual purgation, threw up a large quantity of blood; *puella autem nihil inde detrimenti sensit; sana namque permanebat & alacris*; yet the girl found no inconvenience from it; for she continued always healthy and chearful." He goes on afterwards to cite many other authors, who had left the like observations upon record: among these he relates a remarkable case of a married lady, about forty years of age, who, in place of the menstrual flux, which had been suppressed for two years, used to have a periodical vomiting of this kind, and, when certain styptics had been administered to her by a surgeon, found herself considerably more afflicted. *Timæus*, a celebrated physician, tried every

X 2

method

¹ De mulier. morb. Lib. I. cap. 5. Charter. Tom. VII.

P. 732

^m Sect. 5. aphorism 32. Charter. Tom. IX. p. 233.

ⁿ Observ. rar. medis. anat. chirurg. Tom. II. observ. 17. p. 196.

method to recal the suppressed *menstrua*; but nothing would do: seeing, therefore, that this patient could easily bear this bloody vomiting, he committed the whole affair to nature. *Duraverunt autem hi vomitus usque ad quadragessimum octavum annum, quæ sponte desierunt, valetudine corporis deinde variis morbis tentata subinde, ut plerumque deficientibus per ætatem fieri solet.* “These vomitings, however, lasted till “ the forty-eighth year of her age, at which time “ they ceased spontaneously; and from thence afterwards her health became affected by a variety of “ disorders; which is commonly the case with women “ whose *menstrua*, through age, begin to leave “ them.” At the same time, he very rightly observes, that we may attempt indeed, with great safety, to take away the obstruction from the uterine vessels; but before this is done, to stop such a vomiting of blood must be extremely dangerous, seeing that the worst of symptoms, and even death itself, have been the consequence of such a perverse method of cure; as he proves from a number of instances.

Intestines.] That the blood, coming from the *æsofagus* and stomach into the intestines, may afterwards pass off by stool, is abundantly evident; but it is equally certain, that while the *menstrua* are suppressed, the blood may be derived, at stated periods, from the mesenteric vessels, into the intestines. On another occasion, at § 719, when treating of a *diarrhæa* in fevers, the following text was quoted from *Galen*°. *At visa est quoque mulieribus, suppressis mensibus, hujusmodi per sedem sanguinis vacuatio fieri; ut & nonnullis per vomitum ob eandem causam: verum & his quidem sincerus sanguis excernitur, similis ei, qui a mac-tata viétima profunditur, modo per alvum inferiorem, modo per superiorem.* “ But we also observe, that “ such an evacuation of blood by stool, happens in “ women

° De loc. affect. Lib. V. cap. ultimo. Charter. Tom. VII. P. 503.

“ women who have a suppression of their *menfes* ;
“ and in some a like discharge of blood by vomiting
“ has proceeded from the same cause : but then in
“ these cases the blood is discharged pure, like that
“ which is poured forth upon slaying an animal ;
“ and this is sometimes evacuated downward by stool,
“ and sometimes upward.”

To this head may be referred that evacuation of blood, which comes from the hæmorrhoidal vessels. The vicinity of the parts, and similarity of the vessels, contribute greatly, when the *menstrua* are suppressed, to promote this evacuation by the hæmorrhoids ; whence also *Hippocrates* ^p, and in another place ^q, where he is recounting the diseases which happen at various times of life, remarks, that the hæmorrhoids do not appear before the time of puberty, nor after the age of forty-two : now the menstrual flux is pretty nearly limited to the same period of time. We have the testimony of very eminent physicians, of the quick and surprising relief they have seen procured from the application of leeches to the hæmorrhoids, in a suppression of the *menfes* ^r. Several women I have known, who have had an evacuation of blood every month, both by the hæmorrhoids and from the *uterus* ; and the deficiency by one of these outlets has been curiously supplied by the abundance of the other. Nay, even according to some authors, the hæmorrhoids are not only to be found in the *intestinum rectum*, but also about the *uterus* itself ; for thus we read : *Hæmorrhoides quidem raro in mulieris sinu inveniuntur, sed frequentius in collo matricis & ejus orificio, nasci solent* ^s : “ That the hæmorrhoids, or piles, are
“ rarely to be found in the fore part of the privi-
X 3 “ ties,

^p Coac. prænotion. N°. 522. Charter. Tom. VIII. p. 883.

^q Ibid. N°. 512. p. 882.

^r Freind emmenolog. p. 103.

^s Harmon. gynæc. part. poster. Spach. p. 33.

“ ties, but are used to spring up more frequently
 “ about the neck of the womb, and its orifice”.

Bladder.] *Galen* †, when he is recounting the symptoms which usually follow upon a suppression of the *menstrua*, thus has it: *Ac præterea lumborum, & colli, ac sincipitis dolor, & oculorum baseos, item febres ardentes, & urinæ nigricantes cum rubra quadam sanie, perinde ac si carnum maceratarum loturis fuliginem miscueris, &c.* “ And pain, besides, of the loins, neck, forehead,
 “ and under the eye, accompanied also with a burning
 “ fever, and urine of a blackish colour mixed with a
 “ kind of redish *sanies*, much the same as if you
 “ would mix foot with the washings of flesh meat
 “ newly killed.” We know that blood, whether flowing from the kidneys or ureters, or from the bladder, when it mixes with the urine, acquires a deep tawny colour, almost like coffee. An instance of such an evacuation of blood supplying a deficiency of the *menstrua*, we read of in *Holler* ‡: *Est quidam miætus sanguineus, criticus, & intervallis quibusdam motus, qualis fuit in moniali muliere, cujus meminit Musa, quæ singulis mensibus, suppressis menstruis, multum sanguinem eminebat*: “ There is a certain passing of blood
 “ by urine, which is critical, and comes on at par-
 “ ticular intervals, such as that of the Nun men-
 “ tioned by *Musa*, who, every month while her
 “ *menstrua* were suppressed, passed a large quantity
 “ of blood by urine.”

Breasts.] As there is such a manifest communication between the breasts and the *uterus*, which we have already so frequently taken notice of, we need be the less surprised to see the blood derived, upon a suppression of the *menstrua*, into the breasts, and so pass out sometimes at the nipples. *Hippocrates* has said †, *At*
conclusi

† De locis affect. Lib. VI. cap. 5. Charter. Tom. VII. p. 524.

‡ Oper. practic. Lib. I. cap. 52. p. 436.

† De mulier. morb. Lib. II. cap. 20. Charter. Tom. VII. p. 807.

conclufi uteri menses ad mammas remittunt, & ad pectus ascendere cogunt, “ That when the *uterus* is shut up, “ it throws back the *menses* upon the breasts, and “ forces them to go up towards the *thorax*.” *Parey* x knew a woman whose menstrual blood went out every month by her breasts, so that she was obliged to have three or four cloths always in readiness to receive it.

Whilst a woman, about forty years of age, was raging in a violent fit of anger, the blood burst out of her nipples, and in so large a quantity indeed, as to wet all the rest of her body y. Some such cases I myself remember to have seen.

By the skin.] The vessels of the skin, notwithstanding they allow commonly only the finest humours to pass, yet are capable of being so far dilated, as to pour out blood itself. It has been observed, that, in the hottest months of summer, the sweat expressed by the force of hard labour and exercise hath tinged the linen red, and principally about the arm-pits. *Mercatus* z assures us that he had three times seen, *per minimum manus digitum, & per annularem sinistræ manus, singulis mensibus sanguinem profundum, non copiosum, in religiosa quadam femina, cui natura menstruam purgationem denegaverat*, “ the blood “ issue out, but in a small quantity indeed, every “ month, from the little finger of one hand, and the “ ring finger in the left hand, in a certain *religieuse*, “ to whom nature had denied a menstrual purgation “ by the *uterus*.” *Zacutus Lusitanus* a was an eye-witness to such another extraordinary instance, in a country maid of four and thirty years of age, to whom he was conducted by a couple of young students of physic, as she was under this periodical evacuation of blood, which supplied the place of the

X 4

menstrual

x Oeuvres S. Ambr. Paré. Liv. XXIV. chap. 62. p. 631.

y Stalpart. van der Wiel. observat. rar. par. I. p. 342. observat. 79.

z De mulier. affect. Lib. I. cap. 7 pag. 469.

a Oper. Tom. II. p. 494.

menstrual flux: for he saw, *e pedis sinistri pollicis parte interna pulposa, juxta unguem, emanare rivulum sanguinis meri, morose & lente super phialam aqua calida plenum*, “ a small stream of pure blood proceed from
 “ the interior fleshy part of the great toe of her left
 “ foot, near to the nail, and running very sparingly and
 “ slowly into a phial filled with hot water.” This evacuation went on for three, or frequently four days; then, when the hole stopped, she went about her country work again without any uneasiness. She assured them, that when it happened to her, as it had done seven times within the space of ten years, that, when the blood did not flow from this opening in so great a quantity as usual, then a pain of the head and fever were always sure to succeed; but in that case, opening a vein in one or other of the feet, or rather the right foot, always relieved her; for when, by order of the physician, the vein was opened in the left foot, there was a violent pain raised in her knee and toe, and for a year this evacuation of blood did not come so properly, or in so salutary a manner, as it had been usually accustomed to do.

Particular wounds.] *Paracelsus*^b affirms that, *viderit cuidam vulneratæ sanguinem menstruum non per consuetæ loca, sed per vulneris sinum, effluxisse*, “ he saw the
 “ menstrual blood in a certain woman, who hap-
 “ pened to be wounded, flow, not from the usual
 “ places, but from the very middle of the wound.” This however very rarely happens, but much more frequently.

By ulcers.] We have an account of a pretty remarkable case, which sufficiently demonstrates the truth of this^c. A healthy, vigorous, country girl, strained her right foot, when she was fifteen years of age: the like mischance happened to her again, in the same place, when she was nineteen; and then a sordid ulcer broke out upon the part where she received the hurt, which

healed

^b Chirurg. magn. part. 1. Tractat. I. cap. 111. pag. 8.

^c Medical essays and observ. Tom. III. N°. 19. pag. 380.

healed up in about three weeks time : soon after, her whole body began to be disordered : about the twentieth year of her age, her *menfes* began to flow for the first time, but in very small quantity. Her disorder continuing to increase, she was bled at the *væna saphæna* of the right foot : not long after, an ulcer arose in her ankle, which continued open for the space of five years, and a considerable piece of the *os calcis* came out by the fore. Every month, for two or three days together, a quantity of blood, equal to what is usually evacuated by the *menstrua*, passed out by this ulcer, and that periodically, for no blood came away during the intermediate time. Some days before this evacuation, she suffered a most severe pain in the foot, which went off as the hæmorrhage from the ulcer returned. At last, all the carious bones being separated, the ulcer began to heal up, her whole body grew plumper and stronger, and then her menstrual flux came away in the natural way, in the same quantity, and continued the same number of days, as it used to do, when it formerly issued out from the ulcer. She lived afterwards in very good health, having always a regular return of her menstrual flux at the usual place, and no more blood coming away by the ulcer, which, as yet, was not quite healed up.

Thus it is abundantly evident, that the menstrual blood, when it cannot obtain a passage by the usual places, will force its way through different parts of the body. The celebrated *Ruysch*^d thought that he had some reason to doubt, whether the menstrual blood did not sometimes get into some cavity within the body, and there remain collected ; for in a woman's body, who died menstruating, he found the blood a little coagulated, adhering to the sides of the internal cavity of the womb, *quo tuba ejusdem lateris non solum erat conspersa, verum etiam ovarium, in cujus superficie coagulatus copiose firmiterque adhærebat*, “ with “ which, not only the tube of the one side was “ stained,

^d Observat. anatom. chirurg. centur. N^o. 85. pag. 80.

“ stained, but also the *ovarium*; to the surface of
 “ which, a good quantity of coagulated blood firmly
 “ adhered.” This *uterus*, with the annexed *ovarium*,
 and the coagulated blood, he had embalmed and pre-
 served in his own repository, that every one might
 see it. In the rest of the cases above mentioned, the
 blood was carried out of the body, though by very
 uncommon passages; but in this case, the blood
 poured out, and collected within the body, must cor-
 rupt, which would be still more dangerous by far.

Many other cases, indeed, of the same kind, might
 be collected, several of which I myself have had oc-
 casion to see, mostly, indeed, of young girls, who
 have been thrown into a strong fit of terror, or any
 other violent affection of the mind, at the time their
menfes were first about to appear. Such was that
 case we have* of a girl, who about the third period
 of her *menstrua*, from a grievous fall she happened to
 receive, vomited up blood, and her *menfes* afterwards,
 either being entirely suppressed, or at least appearing
 in the smallest quantity for twenty-nine years toge-
 ther, led the most miserable life, ever liable to the
 most frequent hæmorrhages at the mouth, nose,
 ears, eyes, intestines, breasts, from the roots of the
 nails, in both fingers and toes.

I shall only add one case more, which was found
 among the papers of the celebrated *Boerhaave*, after
 his death, in his own hand-writing, and given to me
 by his heirs. A girl about ten years of age, on ac-
 count of some suspicion of a *lues venerea*, had mercu-
 rial pills and decoction of the woods given her, which
 was attended with pretty good success. In nine months
 after, she perceived a pain and stiffness in her right
 arm: a good many pustules broke out, in which she
 felt a pricking pain; and pure blood, a little after-
 wards, issued out of these pustules: immediately after
 this, all the pustules vanished, not leaving a vestige
 behind;

* Med. essays and observat. Tom. II. N^o. 20. pag. 306.

behind; and the pain, at the same time, went wholly out of her arm. A month after, when she entered upon the twelfth year of her age, all the same symptoms returned, and were immediately succeeded by the first period of the menstrual flux, which, in a month after, returned in the same manner, ushered in by the same hæmorrhage, from the pustules in her arm.

In order to reduce the *menstrua* to a more regular course, emenagogues were administered, and she was bled at the feet, with this good effect, that the *menstrua* returned by the proper place, in due order and quantity, without being preceded by the hæmorrhage from her arm as formerly. But as the winter was very severe, when her hands grew cold, the blood immediately issued in considerable quantity from the ends of her fingers, without the least appearance of any opening, or pustule whatever. By being cherished with warmth and flannel, and afterwards, the spring season coming on, the disorder abated, and the menstrual flux, for four months, came away at the usual time, and in proper quantity.

Then again, forsaking the natural course of the monthly period every day, or every two days, or sometimes once in eight days, the blood distilled by drops from the skin of the fingers of the right arm; nor could the eye distinguish, upon wiping the skin, any opening from whence the blood proceeded. It happened sometimes afterwards, that having ouzed out blood all the morning from her fingers, she was, past noon, seized with a *vertigo*, and redness in the face: soon after, the *larynx* was raised up into a pretty conspicuous swelling outwardly, with a kind of hysterical stifling in her throat: a little afterwards, more little sources of blood were opened, and poured down their streams, from the fore part of her neck; upon which the *vertigo*, red-

4 ness

ness of the face, swelling of the *larynx*, with sense of suffocation, all went off.

Another time, her left *hypochondrium* was blown up, swelled, and very painful : this complaint was relieved by the application of an aromatic plaster. By bleeding in the foot, and by the use of anti-hysterical remedies, emenagogues, and bathing, the bad symptoms were indeed a little mitigated ; but yet, as the menstrual flux remained still suppressed, there was hardly a place in the body they did not attack.

Again her face reddened all of a sudden : then came on a large bleeding at the nose ; this was not yet stopped when the *larynx* swelled, which again went down as the blood began to ouze down from the fore part of the neck : the self-same day too, the blood issued from her right arm, and the calf of her right leg : towards evening, her right side was seized with a spasm all over ; she bore it however with great firmness : then her eyes, lips, neck, hands, knees, were all convulsed alternately, and her stomach swelled up very much : at ten o'clock, these disorderly symptoms were in some measure composed ; there only remained a weakness and immobility in her right arm, nor could she stretch out her right knee. The swelling about her stomach continued, with a sensation of heart-burn ; and there came on a blindness upon her left eye, the only part of this side which had been affected.

After trying various remedies, she recovered the motion of the right arm ; but neither the swelling of her belly went off, nor could she stretch out her leg, nor was the sight restored to her left eye.

About a month afterwards, her left eye swelled all of a sudden, from whence, soon after, the blood, like tears, poured out in great abundance, with no relief, however, to the blindness. Then followed an ouzing of blood from the skin of the nose, where it covers the left lachrymal sac : after that a hæmorrhage

at the nose, which was immediately succeeded by a spitting of blood, and streams of blood pouring down from the nails of her right hand, and from that side of the arm which is nearest the little finger. The calf of her right leg at the same time swelled up, but this tumour went off without any ouzing of blood by the skin. Two days after, being seized with a sudden fright, the blood poured out by drops from her left eye, as also from her right arm and hand, according to the course of the larger veins, though not in any remarkable quantity,

An hystERIC plaster was applied to her belly, and emenagogues, baths, anodyne anti-hysteric mixtures, were also administered: the *menstrua*, which had been two months suppressed, now appeared but in very small quantity, and the swelling of her belly went down.

Here, in the manuscript, the history of this surprising disorder ends. From thence we see what various and surprising mischiefs may arise from a suppression of the *menstrua*; and at the same time we have a confirmation of all that has been formerly said concerning those various and wonderful outlets, by which the blood, that naturally ought to be discharged by the *uterus*, finds out a passage.

S E C T. MCCLXXXVII.

OR even all the *viscera* will frequently be much weakened thereby; and partly from the liquids putrefying, and partly from the vessels being injured, an infinite variety of disorders will arise, (106.)

It has been said before, at § 1285, that almost all the natural, vital, and animal functions were liable to be injured from a suppression of the *menstrua*, partly
by

by reason of the blood being retained, which ought by the law of nature, to be evacuated; partly from an irritation of the *uterus*, which by the action of *regimen* governing, or consenting principle, may have power to hurt the different *viscera*, or, at least, greatly to disorder their functions. What various and surprising diseases may be produced from the menstrual blood when it passes not freely by the accustomed and natural outlets, but is forced to make its way out of the body by those extraordinary passages, sufficiently appear from the instances given in the foregoing paragraph.

Now we must observe, that in the cases hitherto mentioned, the blood which passed, was in itself wholesome and pure, such as, to use the expression of *Hippocrates*, flows from a victim newly slain; but if by gathering within the substance of the *uterus*, or any other of the *viscera*, it should, through length of time, begin to be corrupted, and acquire an acrimony then indeed disorders of a more obstinate and dreadful nature may justly be apprehended. The blood stagnating within the cavity of the *uterus*, as will afterwards appear at § 1290, if all access to the external air be denied, may remain a long time without being corrupted: at last, however, by too long a continuance it will degenerate altogether, and may there occasion the very worst of mischiefs. We frequently see women become infirm, and greatly disordered in their health, at that time of life when the menstrual flux naturally begins to leave them: how much more readily, then, must this be the case, where the *menstrua* are preternaturally suppressed! *Manningham*, in his very useful Compendium of Midwifery^f, observes, that *plures mulieres inter annum quadragesimum quintum & quinquagesimum moriantur, quam in quovis alio vitæ stadio*, “ more women die between five and forty
“ and fifty years of age, than at any other period of
“ life

^f Pag. 49.

“ life whatever.” It was before remarked, in the chapter upon *Schirrus*, that schirrous and cancrous tumours were most frequently observed to happen at that time of life. But from the authority of *Hippocrates*^g, we are assured, that the menstrual blood may be corrupted by being too long retained; *et postquam duo aut tres menses præterierint, interdum et per pudendum menstrua confertim erumpunt; Et quæ prodeunt, velut carunculæ esse videntur, velut ex corruptione Et nigra sunt;* “ and at the distance of two or three months shall break forth all of a heap from the *pudendum*; and what comes away, appears like clots of corruption, and is quite black.” At the same time he remarks, as we mentioned before, at § 1285, that ulcers might be produced in the *uterus* from such a state of acrimony and corruption of the blood, which, no doubt, would be attended with danger, even to life itself. Nay, from the superabundant collection, alone, of the female *menstrua*, that is, when they come not properly away, he elsewhere presages many mischiefs^h. *Lumborum distensio ex muliebrium mensuum multitudine, ad suppurationem tendit: et variæ prodeuntes, viscosi, graveolentes, strangulatorii, menses, ex prædictis, ad suppurationem tendunt: arbitror autem, tales etiam aliquantum delirare.* “ A distension of the loins, from a great quantity of collected *menstrua*, is very liable to suppurate: the *menstrua*, which come away irregularly, are viscid, smell disagreeably, or are choaked up, on the same account, have also a tendency to suppuration: and women so affected, I think, are a little inclined to be delirious.” Whence it is not absurdly expressed by *Helmont*ⁱ, where, in treating of the menstrual flux, he says, *Primo peccat abundantia bona, dein superfluitate onerosa, mox privatur vita,*

^g De mulier. morbis, Lib. I. cap. 6. Charter. Tom. VII. pag. 732, 733.

^h Coac. prænot. N^o. 324. Charter. Tom. VIII. pag. 870.

ⁱ In capitulo *Lunare tributum*. pag. 584.

vita, & virus evadit. “First of all, it abounds to
 “excess, then it overloads with its superfluity, after-
 “wards it loses all its life and spirit, and at last be-
 “comes a poison.”

What mischiefs are to be apprehended from the
 superabundance only of good and wholesome blood
 and in what manner, from the same cause, it may
 distend the vessels too much, and break through
 them, hath been fully shewn at § 106. But when
 the humours, in length of time, by stagnating, ac-
 quire a greater degree of acrimony, then, indeed
 the vessels will suffer greater injury, and diseases still
 more troublesome will necessarily follow, whether in
 the *uterus* itself, or in any other of the *viscera*, to which
 the *menstrua* may have found their way, sometimes by
 their dilated extremities, if the vessels have remained
 entire; sometimes, which, as we observed before, is
 much worse, by erosions through them: whence also
 appears the reason why *Hippocrates* has said^k, *mor-
 borum omnium uteri causæ sunt*, “that all women’s
 “disorders spring from the *uterus*”.

S E C T. MCCLXXXVIII.

THIS disease is known, 1. From the age
 2. The full growth; 3. *Plethora*; 4. And
 afterwards, from the signs which follow, in
 consequence of the subsequent disease.

1. It was remarked, at § 1284, that the time of
 life, when the *menstrua* first make their appearance,
 is different in different countries: nay, I myself have
 sometimes observed a great diversity in the same fa-
 mily, some girls menstruating sooner than their
 sisters.

^k De locis in homine, cap. 18. Charter. Tom. VII. pag.
 376.

sisters by two years, though all of them have enjoyed the very best health.

2. As to what we are to determine concerning this head, we must refer the reader to what has been said at § 1284, where it appeared, that the menstrual flux did not always follow after, but more frequently was observed to precede, the full growth of the body.

3. In like manner, we must refer him to the same section for what is to be judged concerning a *plethora* being the sole cause of the menstrual flux. It is true indeed, that about the eruption of the *menstrua* there is a greater redness in the face, and the eyes look brisker and more lively. The swelling of the breasts too gives the most frequent indications when the *uterus* is become ready for the first eruption of the *menfes*. But unless all these signs of a *plethora* appear, which have been already mentioned, at § 126, we must not by any means think of it as a cause; for it sometimes happens, that the *menstrua* either don't appear at the usual time, or, if they do flow, stop soon afterwards, on account of a bad, sluggish, cold, phlegmatic habit of body: in such there is no redness in the blood; their cheeks, lips, and gums are pale; upon opening a vein, there is a small bit of redish, concremented blood swims a-top, in a large proportion of *serum*, which sometimes has a mucous, slimy kind of viscosity. As to girls in this situation, if the cure of a *plethora* is attempted, every thing will be sure to turn out for the worst, seeing our principal aim must be, in the first place, to correct this bad habit of body; for, as we have already observed at § 1285, patients of this sort are deprived of the *menstrua* by reason of their bad state of health, which is the cause of their disappearing, and not the effect resulting from their deficiency.

4. Here again we have need of the greatest attention to guard against some errors, which, in practice,

may be of the most dangerous consequence. About the time of life when the *menstrua* appear, a virgin may be taken with other disorders, which may not in the least depend on the approaching menstruation, but may arise from causes extremely different; and yet it is no ways uncommon to see every thing ascribed, which happens at such a time, to this cause alone, not only by ignorant women, but sometimes even by physicians, less attentive to every minute particular circumstance, while they are engaged, or rather overwhelmed, in a crowded and extensive practice. I have known it sometimes proposed, to administer very powerful emmenagogues in the beginning of the small pox. When the first of the infection has occasioned a pain in the back, and redness of the face, together with shivering, and slighter kind of feverishness; and when a physician, who knew better, has, at the earnest intreaty of the patient's mother, been called, it was with the utmost difficulty he could procure a delay of twenty-four hours, in order to form a surer *diagnosis* of the distemper, before the emmenagogues should be administered.

Besides, mothers are frequently too solicitous, when a certain time of life draws near, to force, as it were, physicians to administer every remedy they have a fancy can forward an eruption of the *menstrua*.

Whereas it is the proper business of nature, so to dispose the *uterus* by slow degrees, and gently dilating the extremities of the vessels, properly to send forth the menstrual blood: this however, from what has been already said, must happen, we see, at various times of life in different individuals. I shall never be ashamed, for my own part, to confess, that I have, on these occasions, acted the part of a mere observer, and making use of a little honest, medical craft, have ordered only what I imagined would give the least disturbance to the body, and be in no danger of increasing too much the motion of the humours,

humours, that whilst I was really doing nothing I might seem to do something, and by this means get rid of their querulous importunity.

For it has very often happened, that in attempting, for several months together, by hot stimulating remedies, to bring down the *menstrua*, they have given rise to other diseases, or so weakened the uterine vessels, by the frequent use of bathing, that the *menstrua*, indeed, have come down, but afterwards have flowed in far too great abundance, returning almost every week, not without much detriment to the health, and too just apprehensions of sterility.

What was said of the time, holds true with regard to the quantity, of the menstrual flux, which, as was before observed, is not so great as many have imagined, and is different in different women, however healthy and fruitful, according to their various habits of body and manner of living.

When, therefore, the usual time of life is at hand, and both the breasts begin equally to form; when there is a sudden growth to be observed in the body, and the face looks more than usually florid; if there is perceived at the same time a pain in the loins, and small of the back, a stiffness, with an obtuser sort of pain about the neck and groins; we may then be pretty certain that the female body is disposed for the menstrual eruption. Then it may be proper to assist the first efforts of nature by gentle bathing, friction of the legs and thighs, and the milder emmenagogues. In some, though not very frequently, the first *menstrua* flow without any uneasiness, and the vessels of the *uterus* being once opened in this manner, the after-periods have gone on regularly without any of these symptoms just now mentioned; at least they seldom appeared, or, if they did, were never severe.

S E C T. MCCLXXXIX.

IN order to procure relief, various remedies are requisite, according to the various causes of the disorder.

It is necessary in the cure, that the menstrual flux come away in due time, and in proper quantity: but as the causes which hinder this may be very various, so they also must require a different method of cure. Nothing general, therefore, can be determined on this head; but, in order to obtain a successful cure, we must be carefully attentive to every particular cause, which may occasion a suppression of the *menstrua*; for if the most celebrated and powerful emmenagogues are given, when these outlets, by which the blood should naturally flow, are entirely shut up, (which we shall presently explain) they may do a great deal of harm, but never can be of any service. It would be in vain for us to attempt to bring down the menstrual flux in a pale leucophlegmatic girl, where, for want of sound wholesome blood, the functions are all languid and in disorder, till such times as we had first so far strengthened her lax and weakly body, as, by the power restored to the vessels and *viscera*, a proper quantity of good blood might be extracted from her daily aliment. If, on the contrary, the uterine vessels, being too much constricted, cannot, but with difficulty, be so far dilated as to allow the blood to pass, then the very opposite method of cure is requisite; for this resistance of the vessels is only to be removed by the use of the most emollient and softening remedies, externally and internally administered; and so with regard to the rest, each of which we now proceed to consider separately.

S E C T.

S E C T. MCCXC.

AMONG which, there is sometimes a natural, and sometimes an occasional defect in the privy parts, from their growing together, which requires the skilful hand of a surgeon to make a free passage there with a proper instrument.

Notwithstanding there may be a proper quantity of good blood, and it may be transmitted in due time, by the uterine vessels, into the cavity of the *uterus*, yet, unless there is an open passage to convey it from the mouth of the *uterus* into the *vagina*, and so from this out of the body, the *menstrua* will still continue to be suppressed; for we are assured from a great number of observations, that the privities, sometimes, are either so grown together, or there is a membrane runs across the cavity of the *vagina*, which stops up the passage in such a manner, as not a drop of blood can possibly get out.

This growing together of the *pudenda* is, however, sometimes natural, as, for instance, when it is observed in a child on its first coming into the world; whence midwives are commonly desired carefully to examine the parts of new-born infants, to see if any such defect is to be found. Yet in this case it is very evident, that we can only discover that growing together, which obtains between the lips of the *pudenda*; but as to any other impediment, which may be seated up in the *vagina*, or in the orifice of the *uterus* itself, we can hardly have any certain knowledge before the proper time of the flowing of the *menstrua*.

Such a growing together, however, happens more frequently after certain disorders in these parts, such as ex-

Coriations, inflammations, ulcers, &c. and then it is called occasional.

A defect of this kind may, besides, take place, either in the orifice of the *uterus*, or in the *vagina*, or in both, though this very rarely happens. Under the name of *vagina* are also comprehended the parts of the *pudenda*, which are commonly considered as external.

We shall first examine those impediments which block up the orifice of the *uterus*, so as to occasion a suppression of the menstrual flux.

These particular causes of suppressed *menstrua* have been taken notice of by the antients; for thus we read in *Hippocrates*¹. *Si uteri indurati fuerunt, os asperum redditur, & menses delitescunt.* “When the *uterus* “is indurated, (*i. e.* scirrhus) the orifice becomes “rough and jagged, and the *menses* disappear.” A little after he adds, *Et eorum osculum clauditur, neque concipit. Quum sic habuerit, si digito contigeris, os asperum deprehendes, neque digitum intromittit.* “And “the orifice is shut up, nor does it conceive. In “this condition, upon touching it with your finger, “you’ll perceive a roughness, nor will it allow the “finger to pass further up.” He repeats the same in the following pages of his book². Besides, in another place, he makes express mention of the membrane which shuts up the orifice of the *uterus*. *Si genituram non recipiat, mensibus secundum naturam prodeuntibus, membrana ori uteri prætenditur, quod etiam aliis ex causis contingit. Id autem cognosces, si digito ad attrectandum immisso obicem attigeris.* “If “there is no conception, notwithstanding the regularity of the menstrual flux, a membrane is certainly stretched over the mouth of the *uterus*. “This, however, you may know, when, upon introducing the finger, it meets with such a sort of resistance.”

¹ De natur. mulieb. cap. 37. Charter. Tom. VII. pag. 707.

² Ibid. cap. 39. pag. 708. ³ Cap. 68. Ibid. pag. 715.

“sistance.” It is true indeed, that in this place he is speaking of a woman who is barren, yet so as to have her *menstrua* flowing in a natural way. But how the *menstrua* are to get out of the orifice of the *uterus*, which is so closed up as not to admit the seed, I own is not so very easy to conceive. Hence it seems probable, that in the text, the negative particle $\mu\eta$ has been omitted.

For in another place he repeats the same^o; and in the various readings^p upon this place of the text, it is remarked from *Calvus*, that some manuscripts, in place of $\epsilon\rho\chi\omicron\mu\epsilon\nu\omega\nu$, have $\mu\eta\ \epsilon\rho\chi\omicron\mu\epsilon\nu\omega\nu$. In that case, indeed, the text of that whole chapter will be more easily understood, which begins thus: *Quodsi diu non concipiat, non apparentibus mensibus, &c.*

Then follows the text just now cited, which, upon this supposition, would be read thus: *Si mulier genituram non recipiat, mensibus non secundum naturam prodeuntibus, &c.* “If a woman does not receive the seed, the *menstrua* not coming away according to nature, &c.” In the first text the *menstrua* were altogether stopped; in the second they did not flow according to nature; perhaps only in too small a quantity from the vessels of the *vagina* alone, by which also, as we have already observed, the blood sometimes comes away in women with child. But whatever way we determine the emendation of the text, this at least is evident, that *Hippocrates* makes express mention of the membrane which preternaturally shuts up the orifice of the *uterus*.

We have evident confirmation, from anatomy, of the existence of such an impediment to the menstrual flux, as may be seen in the academy at Paris^a, agreeable to what we mentioned at § 1285.

Y 4

Antonius

^o De mulier. morb. Lib. I. cap. 20. Charter. Tom. VII. pag. 743.

^p Ibid. pag. 899. N^o. 129.

^a Academ. des scienc. l'an. 1704. hist. pag. 33.

Antonius Benevoli, a celebrated professor of surgery, has related a very remarkable case, where, by a happy mistake in trying to introduce a *catheter* into the bladder, to relieve a stoppage of urine, he pushed it into the *vagina*, and through the orifice of the *uterus*, and by that means snatched a young girl of eighteen years of age from the very jaws of death, whose belly had been swelled up entirely from a suppression of the *menstrua*.

For as the extraordinary distension of the *uterus*, pressing upon the neck of the bladder, had been the original cause of the stoppage of urine, the *catheter* could not be introduced into the bladder without the utmost difficulty, which when he attempted the morning following to do, for a whole hour together, he had no success; wherefore, changing the patient's posture, he endeavoured again to make it out, though in this situation he could not so readily distinguish whether the *catheter* went right or not. Thinking, however, that he had got within the *sphincter* of the bladder, and vexed at the long delay, and impatient to give the girl relief, he pushed the instrument with a little more force; upon which there immediately came through the *catheter* a dark-coloured liquor, not unlike the dregs of wine, which he took to be bloody urine, knowing that a few drops of blood were able to give a similar tinge to the urine contained in the bladder. However, after a great deal of ugly-coloured liquor (to the quantity of two and thirty pints) had been evacuated by the *catheter*, he then observed the clear urine rush out with considerable force, but not by that instrument; and from thence he was assured, that this instrument had not entered within the bladder, but had penetrated into the cavity of the *uterus*; for he had met with no resistance in the *vagina*. The girl immediately was sensible of vast relief, and joyfully recounted

* *Disertazioni, &c. e osservazioni*, pag. 79, & seq.

recounted to him the whole history of her disorder, which was, that her *menstrua* had never appeared to herself; and that it was then three years since her belly had begun gradually to swell; and that every month, on some particular days, there had been an additional increase to the tumour in her belly, till it had reached to that enormous bigness.

Next morning, having introduced his finger into the *vagina*, he found it to be so as he had imagined, and dilated the orifice of the *uterus* to let the grosser matter out which yet remained within its cavity. Agreeable to this intention, in a month's time, a great deal of thick stuff came away, mixed with pieces of a corrupted slough: this evacuation he promoted, however, by deterging the internal surface of the *uterus* with injections of vulnerary decoction and honey of roses; but after that the evacuation began to lessen, and the matter had put on a better appearance, he then made use of injections of *vinum myrrhatum*; and thus the girl, in two months time, went home to her own country, quite recovered. About eight or ten years, however, she returned much troubled with some hysterical complaints, which were reckoned to proceed from her former disorder, as every method, that was tried by the physicians, proved ineffectual to restore the menstrual flux. The ingenious *Benevoli* was the more surpris'd at this, as in three other girls, whose *menstrua* were suppressed from a membrane shutting up the orifice of the *uterus*, and which he had cut in order to procure a passage to the collected blood, the *menstrua* returned at very regular periods. He very well observes, however, that in the first case the blood, remaining so long as three years in the *uterus*, might work such a change in the inner surface of it, as to shut up the extremities of the uterine vessels, and so disable them from transmitting the menstrual blood.

It

It is self-evident, that in a case of this kind there is no other remedy left, but the hand of a skilful surgeon to cut through this membrane stopping up the orifice of the *uterus*, and gradually to dilate it as in the case above was really done. *Hippocrates*, in cases where the lips of the *os uteri* grow close together, gives the following directions: *Copiosa calliditate lavato; Et quæ os emolliunt apponito; immissoque specillo aperito; quod per digitum eodem modo facito*: “Wash it well with plenty of warm bathing, and, after having applied something emollient to the orifice, endeavour to open it by introducing a probe which you may likewise do with your finger.” And in another place he says¹, *Quum vero lota Et fota fuerit, os uteri, specillo stanneo aut plumbeo simulque, si opus fuerit, os uteri, specillo stanneo, aut dilato simulque, si opus fuerit, dirigito a tenui aut spicatus; deinde crassiore, si admiserit, donec probe habere videatur. Specillum autem emolliente, quodcumque conducere videbitur, dissoluto Et liquido reddito, intingito. Specilla lata posteriore parte conficito, &c.* “You are to dilate the *os uteri*, after it has been well washed and fomented, with a probe made of tin or lead, or, if necessary, with your finger, beginning with the smallest; then with a bigger, as it will admit, till you shall think it sufficient. Anoint your probe, however, of whatever size, with something liquid and emollient, and make them pretty thick towards their posterior part, &c.” Elsewhere he remarks², *Quum mulier genituram excipere non potest, membranam uterorum osculo adnatam esse omnino necesse est*. “That when a woman cannot rightly take in the seed, there must necessarily be a membrane grown over the orifice of the *uterus*.” This, however, he seems inclined to take away

¹ De natura muliebri, cap. 39. Charter. Tom. VII. pag. 708.

² De infecundis, cap. 8. Charter. Tom. VII. pag. 847.

³ Ibid. cap. 11. pag. 851.

away by means of *flos æris*, bullock's gall, &c. nevertheless, it is better and safer to cut through such a membrane, as the *os uteri*, being so very sensible, may readily be hurt by remedies so very acrid. Nay, he advises himself a little afterwards, *Nil acre adhibendum : si enim os uterorum exulceratum fuerit, quum inflammatum fuerit, periculum est, ne prorsus sterilis fiat.* " That nothing acrid might be
 " administered : for, if the *os uteri* happen to be
 " ulcerated, should it be inflamed, there is a hazard
 " lest she turn out barren altogether."

But those *menstrua* come easiest away of all, which, at the proper time, when the uterine vessels are dilated and open, gently ouze out by the *os uteri*, now softened and yielding to a free discharge. To this, however, it is necessary that the mouth of the *uterus* be placed in a line with the *vagina*, as it commonly is by nature : yet sometimes, as we shall afterwards see in difficult births, the *os uteri* is observed to decline from this straight situation, towards either the anterior, posterior, or lateral parts of the *pelvis*. From this wrong situation may arise obstacles to the free efflux of the menstrual blood, nay, even entire suppressions ; according as the *os uteri*, pressed upon by the neighbouring parts, shall be in part shut, or altogether blocked up : whence *Hippocrates* has remarked, that the menstrual flux may be hindered by an awkward situation of the *uterus** ; and elsewhere he says^v, *Si uteri ad coxendicem decurrerint, tum menses non produnt ; tum dolor ad imum ventrem, & ilia, pervenit ; ac si digito contingeris, os in coxendice deprehendes :* " If
 " the *uterus* be removed towards the hip-bone, then
 " the *menses* do not come right away ; at the same time a pain arises about the *ilia* and lower belly ; and if

^v Ibid. cap. 13. pag. 853.

* De locis in homine, cap. 18. Charter. Tom. VII. pag. 376.
 De natura mulieb. cap. 8. Charter. Tom. VII. pag. 685.

“ you touch it with your finger, you will find the
 “ orifice got towards the *coxendix*.” He also remarks,
 that sometimes, *uterus ad medios lumbos se convolvere*,
 “ the *uterus* shall cover one half of the loins^z ;” and
 subjoins a little afterwards^a, *At quibus osculum alio
 inclinatur, & coxendicem incumbit (hæc enim etiam fiunt,
 utrumque purgari, & genituram suscipere, liberosque
 procreari prohibent) hanc odoratis fovere oportet, & post
 fomentum digito revellere & a coxendice abducere, postea-
 que tædulis & plumbea fistula dirigere; neque enim celeri-
 ter cogetur, ut dictum est: “ But in cases where the
 “ orifice inclines another way, and lies upon the
 “ haunches, (for the effect of this is, to hinder the
 “ purgation of the *uterus*, the receiving of the seed,
 “ and the having children) you must foment it with
 “ something that is perfumed, and, after the fomen-
 “ tation, bring it down with your finger, and re-
 “ move it from the haunches; and afterwards keep
 “ it in this direction by means of little links introdu-
 “ ced, and pipes of lead; but without using
 “ much force, as hath been already said.” Many
 other remarks of this kind we meet with in several
 places of his works. Above all he recommends
 emollient fomentations, and, when these have been
 used, advises to put up the finger, in order to bring
 the *os uteri* to its natural situation. He seems also,
 after the use of emollients, to have employed some
 sharp stimulating remedies, that the *uterus*, by their
 vapour being irritated, might contract itself, and so
 change its situation. Thus he advises^b, *copiosa cal-
 lida lavandum, & uteri fovendi, urina vetus infundenda,
 & fervefacienda, & supra pelvis cavitatem mulier, ves-
 tibus contecta, collocanda. Ubi autem urina refrixerit,
 massæ ignitæ in urinam injiciendæ, & fomentum adbi-
 bendum, quo ad se obtuse cernere, & animo deficere,
 dicat,**

^z De morbis mulierum, Lib. II. cap. 19. Ibid. pag. 807.

^a Ibid. cap. 20.

^b Ibid. cap. 23. pag. 813.

dicat, “ washing the parts plentifully with something warm, and fomenting the *uterus*, and the woman to be placed above a vessel of stale urine made boiling hot, taking care, at the same time, that she be well covered up with clothes. But the urine, when it grows cold, is to be warmed again, by means of a red-hot mass, and the fomentation continued, till she says her eyes can hardly see, or that she is fainting.” It is plain, therefore, that the *os uteri*, being either shut up, distorted or indurated, may occasion a suppression of the *menstrua*; as also the menstrual blood, contained within the cavity of the *uterus*, may be denied a free discharge by the perverse situation of its orifice. At the same time it appears that often these causes are not so easily to be discovered.

What we more frequently meet with, is a growing together of the *pudenda*, shutting up the passage, or even a membrane dividing the cavity of the *vagina* into two, so as to retain the blood which comes down from the *uterus*. Such a preternatural membrane, though it is even seated pretty high up, when pushed out by the blood distending it, comes down, sometimes, as far as the orifice of the *pudenda*, and is obvious to the eye-sight. But the *hymen*, about which there is so much dispute among the anatomists, may also obstruct the passage of the *vagina*: naturally, however, it is perforated; as may be more particularly seen by drawing the lips of the privities aside; for then a small oblong opening, or chink, is to be observed: stretch them a little more, and you will see a roundish hole: on letting the parts go, and leaving them to themselves, the *hymen* first closes to an oblong form, then to a small chink, and, at last, when the parts recover their situation, disappears entirely. Such a *hymen* the celebrated *Albinus* says he found in a full-formed embryo, in children and infants of different ages, young girls, and in
maids

maids about twenty years old^c; and, as he always does, has given exact descriptions of them, illustrated with elegant figures. Naturally then the *hymen* allows a sufficient opening for the menstrual blood to pass: but sometimes it is observed to degenerate into a close thick membrane, without any opening whatever. Thus *Diemerbroeck* affirms^d, *Se in publico theatro secuisse juveniculam viginti trium annorum, in qua illam membranam omnino continuam, nec uspiam pertusam, adeoque firmam, invenit, ut cujuslibet fortissime arietantis viri impetum sine disruptione sustinere potuisset*: “ That in the
 “ public theatre he had dissected a young woman,
 “ about twenty-three years of age, in whose body
 “ he found this membrane entirely continued with-
 “ out the least perforation, and so firm, as might resist,
 “ without breaking, the most vigorous assaults of
 “ the stoutest male champion.” These are termed *atretæ*, or imperforated; several instances of which are to be met with in medical histories. But preternatural membranes of this sort are not only to be found about the orifice of the *vagina*, but also a good deal higher. Such is that surprising case we find in *Ruyseh*^e. A woman big with child had suffered so very intense labour-pains, that she filled the whole neighbourhood with her distressful cries; nor could all her strongest efforts avail in the least towards quickening her delivery. *Ruyseh* being called, *invenit membranam hymenem, integram, valde crassam, & a fœtus capite, exitum quærente foras extensam*, “ he
 “ found the membrane *hymen* entire, and vastly thick,
 “ and pushed out by the head of the *fœtus* endeavouring to make its way.” This membrane he divided with a pair of scissars, introduced upon a director, to prevent the child’s head from being injured. The labour, however, was by no means advanced;

^c *Academ. annotat. Lib. IV. cap. 10. pag. 49, & seq.*

^d *Anat. lib. I. cap. 6. pag. 149.*

^e *Observat. anatom. chirurg. centur. observat. 2. pag. 21.*

vanced; for another membrane presented itself, obstructing the passage of the *vulva* a little deeper, which being in like manner cut through, a stout lively young infant was immediately brought into the world, without injury to the mother, who, in a few weeks, recovered quite well; and she, together with her young one, were both in very good health at the time when *Ruyfch* first communicated this very surprising case to the public. The circumstance, in this woman's case, the most extraordinary, was that her fruitfulness should be in no shape hindered by such a double obstacle; but as to that, we shall speak more at large in the following chapter.

It is easy to see that a suppression of the *menstrua*, arising from such a cause, can only be cured by the hand of a skilful surgeon, which can alone remove the obstacle. We may know when such an impediment takes place, if, at the usual time, all the symptoms of the menstrual flux appear, yet are not followed by any such discharge; if the same symptoms return every month, and the *uterus*, at the same time, shall grow more and more turgid, and cause the belly to swell; if this swelling be observed to lie chiefly about the lower part of the *abdomen*, of a spherical form, smooth, soft, and equal; or, when you press it, there shall be nothing perceived like the stirring of a child; if this disorder shall have lasted long, and the swelling increase so far, as much to exceed the common size of a woman with child, a little before her delivery. Such a membrane, besides, swells up in the *vagina*, pushed out by the incumbent blood: sometimes, also, it projects out from the *vulva*.

Ruyfch^s performed a cure upon a girl, who had been for many months valetudinary, from a suppression of the *menstrua*, and complained frequently of intolerable pain and weight about the bottom of her belly,

^f Astruc traité des maladies des femmes. Tom. I. pag. 258.

^g Observat. anatom. chirurg. centur. observat. 32. pag. 31.

belly, only by cutting through a sort of membranous substance, situated behind the *hymen*, which blocked up the whole passage completely. Here the incision was no sooner made, than he was surpris'd to see the blood rush out with mighty force, to the quantity of four pints, or thereabouts, no ways coagulated, far less putrefied, and only of a very blackish colour. We read of another case ^b, where a girl, about twenty-six years of age, never having had her *menfes*, who complained of a swelling and bitter pains in her lower belly, both which received an additional increase every three or four weeks, till at last a tumour appeared in the *vulva*, which some took for a rupture, others a *prolapsus uteri*. Sanniè, a very dexterous and skilful surgeon, having carefully examined all the parts, found plainly from his touch, that a liquid was collected behind this membrane, which he had no sooner pierced with a lancet, than immediately a vast quantity of blood impetuously rushed out. The membrane resembled parchment in thickness, and felt no pain in the cutting: upon examining the *os uteri*, after the evacuation of the blood, he found it placed higher up than is usual in women who never have borne children; but every thing else was right, and according to nature. The girl was completely cured, and in a little time her *menstrua* flowed regularly at proper periods, and in sufficient quantity: she was married afterwards, had children, and continued to live in very good health. The blood however, which in this case came away upon cutting the membrane, was of an extreme good colour, very fluid, and had no rank steam: on standing in the vessel, it began to rarefy and ferment, so as to run over the edge, although, at first, it hardly reached within three inches of the brim. Many other cases of the same disorder, this surgeon had managed; but in none had he met with

^b Holl. Maatschap te Haerlem. Tom. V. pag. 424, & seq.

with a membrane so thick, or the *vagina* so completely shut up.

There may also happen such a tightness of the *vagina*, that the menstrual blood cannot either get out at all, or at least must pass with great difficulty; whence thickening, and turning grumous in so narrow an outlet, it blocks up the entry still more and more. In this case, recourse must be had to art, in order to dilate the *vagina*; a pretty extraordinary instance of which we read¹ of a woman, whose *vagina*, through its whole length, was so strait, as not to be able, without much difficulty, to admit a writing-quill of an ordinary size; whence a marriage she had contracted three years before, as it could not be consummated, was, by the laws, declared to be void; and now the time, limited by the statute, was very near being elapsed. No reason could be assigned for this narrowness of the *vagina*, and moreover it appeared, at the same time, to have a sort of a callous hardness. The ingenious *Benevoli*, for some days, having applied emollient fomentations to the parts, introduced afterwards, through the whole length of the *vagina*, a pessary made of gentian root, (which surgeons sometimes use in dilating the orifices of fistula's) gradually, however, enlarging it, till one of the size of that inner substance, which is contained within the Turkish wheat, could be easily admitted. A pessary, accordingly made of this substance, swelling with the afflux of the surrounding humours, enlarged the dilatation considerably; and the thickness of these pessaries was increased from time to time successively: at last sponge, prepared in a convenient manner, was employed for the same purposes, which makes a very strong dilatation, injecting at the same time some *vinum myrrhatum*, in order to heal any excoriations that might, perhaps, be occasioned from the stretching of the pessaries in dilatation. As she was returning home to

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her

¹ *Benevoli dissertazioni, &c. e osservazioni*, pag. 86, & seq.

her own country, he advised her frequently to repeat the use of the sponge, in order to preserve the same degree of dilatation. After some considerable time, she discontinued, at last, the use of the sponge, and acquainted *Benevoli*, by letter, that what she had long hoped for, was at last obtained.

We read of a similar case in the Transactions of the Academy at Paris^k. A woman, who had been married at sixteen years of age, was so strait in the *vagina*, that she could hardly admit a common goose-quill. At the time of her *menstrua*, which came away in very small quantity, she was sensible of a stretching pain about the *uterus*; whence it was thought, that the *vagina* was still tighter towards that part, than at the exterior orifice of the *pudendum*. All the attempts of the husband to open the passage, though he was both young and vigorous, proved fruitless and vain. The surgeon had given it as his opinion, that nothing could be done. In about eleven years afterwards, she found herself with child, notwithstanding the *vagina* continued still as tight and strait as ever. All had the most fearful apprehensions about her future delivery. About the fifth month of her pregnancy, however, the *vagina* of itself began to dilate, and towards the end of her term, and near the time of delivery, it acquired a proper capacity and largeness, and the woman was laid with the utmost safety imaginable.

These two cases shew what great caution and prudence is necessary, before we can determine how far the consummation of a marriage is impossible, on account of the straitness of the parts of generation in a woman.

^k L'an. 1712. hist. pag. 48.

S E C T. MCCXCI.

BUT when occasioned from a stagnation of the liquid, it may be caused to flow,
 1. By fomenting and rubbing the feet. 2. By opening a vein in the foot, and letting some blood away. 3. By giving uterine purges. 4. Emmenagogues. 5. By plasters, fomentations, steams, and warmth, applied externally. 6. By strengthening the vessels themselves, weakened by the *plethora*, with chalybeats, and astringents.

We have now to consider those remedies, by which the menstrual flux, when suppressed from any distempered cause, may be again restored to its usual period. But as we have already seen, not only that in different countries they flow at different times of life, but also that in the same country, nay, even in the same family, there is frequently observed a remarkable difference; hence there is the greatest caution necessary, not to disturb the health by untimely remedies, before the *uterus* be, as yet, rightly prepared for a proper discharge of menstrual blood: that this, however, is the work of nature, not of art, we have above demonstrated at sufficient length. But even where the least uncertainty concerning this takes place, it cannot by any means be proper to administer any other, but the most emollient remedies; such, for example, as may render the blood more fluid, and dispose the vessels to an easy dilatation: for to urge on, and increase the motion of the blood, by hot stimulating remedies, which are commonly reckoned in the class of emmenagogues, before the passages are as yet rightly prepared, may

be surely attended with considerable danger. Several times I have seen a spitting of blood, and violent hæmorrhages at the nose, follow when the stimulating sharp emmenagogues have been imprudently given to girls, by silly women, on observing the first signs of puberty; and from that circumstance it has frequently happened, that not till after a great length of time, and with much difficulty, due discharge of the *menstrua* could be obtained by the proper places.

Another thing to be remarked here is, that the menstrual flux is an evacuation of red blood, and therefore supposes such a quantity to be in the body, as may suffer some diminution, without any injury to its health. The *menstrua* are frequently deficient in girls labouring under a *chlorosis*, commonly called the green-sickness, in whom there is but very little red blood: from such, if the smallest quantity of that which remains, be taken away by venæsection, they will become still more languid and disordered, and hence the cure be rendered so much the more difficult. Strength and firmness, therefore, must be first restored to the vessels and *viscera*, in order to procure good blood from the aliment they take down, before we can hope to bring away the *menstrua* in any sort of regularity. In what manner however, and by what remedies, this is to be obtained, has been formerly said at § 28 and 47; and some things shall be still farther added at the sixth article of this paragraph.

When, therefore, the lips, gums, and eyes look pale; the parts under the eyes are lax, blown up, and swelled; the whole body is soft, cold, and flabby; and girls on the least motion are out of breath; when they are dull, languid, cold, and, as it were, indifferent to every thing; emmenagogues must not be thought of, till such times as the health is restored by a proper method of cure: but if there is a lively florid colour in the countenance, an equable heat all over

over the body, and the other signs, formerly mentioned, appear, which all shew the uterine vessels to be pressed, though not as yet inclining to yield; then the remedies may take place, which are recommended in this paragraph.

The liquid, however, may either stagnate, or begin to stagnate in the distended vessels of the *uterus*, either on account of its thickness and want of fluidity, or because the vessels resist too much the requisite dilatation; or even both these defects may sometimes concur. Then physicians, in this case, may prudently venture upon the following.

I. The remedies under this article have been formerly mentioned in the chapter on Obstruction, where, at the same time, we discoursed of such things as were powerful in deriving, attracting, or propelling. As the feet and legs, however, receive their vessels from the external iliacs, and as the *uterus* too, not only takes its vessels from the hypogastric, but also from the same external iliacs, there being a communication between them by various *anastomoses*, (as may be seen from *Eustachius's*¹ tables) it is easily seen on what account, when the vessels of the feet are relaxed by bathing, and the motion again is accelerated by friction in the same parts, a greater quantity of blood will be derived towards the *aorta*, where it divides into the iliacs, and so cause a greater pressure upon the vessels of the *uterus*, from which there may be hopes of dilating their extremities, so as to allow the menstrual flux to come away.

At the same time we must remark, what is to be observed by all conversant in practice, that warmth in the feet is of particular service at the time of menstruation; but cold, on the contrary, very injurious; nay, sometimes by this the *menstrua* have been all of a sudden suppressed, which I have frequently had occasion to see, especially when they have remained

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long

¹ Tab. XIII.

long on their feet, in a cold marble pavement: for usually, from this very cause alone, there arise spasmodic contractions of the intestines, occasioning the most troublesome cholic pains, which are vastly relieved when the feet are warmed again, and especially by rubbing: for all the *viscera* of the *abdomen* are very badly affected, when the feet are intensely cold; and therefore it is no wonder, likewise, from a contraction of the vessels, to see the menstrual flux suppressed.

Bathings, therefore, and frictions of the feet, are of service in driving off the cold, and recalling and increasing the heat in the lower extremities of the body, as they accelerate the motion of the blood, and derive, at the same time, a greater quantity of humours into the feet and legs. But seeing the lower extremities receive their blood from the external iliac arteries, but the *uterus* chiefly from the hypogastric, hence it will probably follow, that the more the vessels of the feet and legs are filled and tumefied, so much less pressure will the uterine vessels have to sustain: and therefore, if by increasing the motion of the blood through the iliac arteries by friction, after the application of warm baths and fomentations to the feet, the passage of the blood through the crural artery shall be in some measure obstructed or lessened, the force and quantity of the blood, moving through the uterine vessels, may suddenly be increased, and so the obstacles may be removed, which could not be subdued by other means.

We have a pretty enough instance of such a method in the following extract^m. Doctor *Archibald Hamilton*, an ingenious physician, at Edinburgh, was called to a young woman about twenty years of age, whose *menstrua*, for near seven months, had been suppressed: the cause had been owing originally

^m Essays and observations, phys. and liter. Tom. II. pag. 403, & seq.

to her exposing herself imprudently to the cold, during the time of menstruation. Before this, she had enjoyed very good health. She had applied to no physician for advice, only taking a few remedies, recommended to her by the women, without any sort of relief. Her colour began to grow paler; her appetite and digestion were quite depraved; she had a languor, *nausea*, and inclination to vomit, a slow and feeble pulse, a mighty weariness, which kept her from exercising her body as usual: she never had any disorder, however, in her breast, nor pain or swelling about the *pudenda*.

Twelve days before the usual period of her *menstrua*, every day in the evening, she sat with the parts exposed to the steams of warm water: on the tenth day she had an aloetic purgative, which gave her four loose stools. Next day, about seven o'clock in the evening, a linen compress was applied to the crural artery in that place, where the tourniquet is usually applied in extirpating the *femur*: this compress was pressed by a bandage carried round the thigh, but not so tight as to occasion a mortification, by hindering an influx of the arterial blood into the parts below: at the same time, also, the patient was set upon the steams of warm water.

It was the doctor's intention to remain close beside her, carefully to observe the consequent effects; but being called away suddenly to another patient, he was gone about twenty minutes, when, upon his return, he found the pulse somewhat quicker: half an hour after, she began to feel a weight and fullness about the region of the *uterus*, and grew a little faintish; but as she perceived no uneasiness in her head or breast, the bandage was continued, and a spoonful of cordial mixture was given her. An hour and a half after the first application of the bandage and compress, the *menstrua* began to flow: but as her feet grew a little benumbed, the bandage was loosened a little; however,

ever, the compress was not removed till next morning, when her *menstrua* went on to flow without any uneasiness, and continued for two whole days together: afterwards her *menfes* came away at the usual periods, and she grew perfectly well.

Whether *Ægineta*ⁿ had any such indication in his eye, when he desires the inferior parts to be bound up pretty tight, for three or four days, immediately before the approach of the monthly period, and when the time of menstruation was come, to loose the ligatures, and administer myrrh, castor, and other emmenagogues. In the chapter following, indeed °, he recommends ligatures, to check too great a flow of blood from the *uterus*, but not upon the inferior limbs only, but also about the arm-pits and groins. His intention was, perhaps, to have a softer compression by bandage, and by pressing upon the veins, to hinder so great a quantity of blood from returning to the heart, which, as hath already been frequently observed, is of great use in removing hæmorrhages. But, in order to provoke the *menstrua*, he advises to bandage the inferior parts only; nor could the constriction be very great, seeing the ligatures were to remain three or four days. Now the capacity of the veins, in the inferior extremities, being lessened with the bandages, the external iliac arteries could not so easily empty their blood into the veins now full and turgid; whence the uterine vessels must be more strongly pressed the whole time, in which the bandages continued upon the parts.

2. Seeing that, in a suppression of the *menfes*, all that blood may be retained, which at every period used to be evacuated, the quantity of course will be increased, and so much the more indeed, as the quantity is larger, which usually goes out by the uterine vessels: for, as we have said before, there is a great variety, with respect to this, to be observed in different

ⁿ Lib. III. cap. 61. pag. 52. versa.

° Ibidem.

ferent women. Opening of a vein, therefore, must be of considerable service to lessen a *plethora* occasioned from a retention of the *menstrua*; whence, also, in a more advanced age, when they are about to cease altogether, many advise bleeding, and that indeed to be frequently repeated. Yet this does not appear universally proper in every case of this nature; for if the menstrual flux lessens gradually in quantity, and the intervals of the periods are lengthened, nor any signs of a *plethora* appear, then there is no need of bleeding; for there is no suppression of the *menstrua*, but only a natural cessation, which by no means ought to be disturbed. But if, towards the fortieth year, the *menstrua*, which hitherto had preserved an accustomed period, are suppressed, for instance, by any violent affection of the mind; if there is an obtuse stretching pain about the loins, the groins, or *pubes*; in that case, bleeding must do service.

But to make venæsection necessary in a suppression of the *menstrua*, all the signs of a *plethora* ought to be present: for if the *menfes* are defective, from a scarcity of good blood, in bodies exhausted by former diseases, repletion, not evacuation, is then necessary. Nor even, when the *plethora* itself shall have degenerated into a *cacobymia*, is it then always requisite to bleed, but rather to take some other evacuant remedies, which, without lessening the quantity of good blood, may draw away the vicious humours out of the body, or change them, so as to acquire again the nature and disposition of the sound humours; more, concerning which, shall be said at the sixth article of this paragraph. Manningham has made the following remarks^p: *Hydrops in ventre a menstribus, magna ex parte, vel omnino, deficientibus plerumque oritur.* “ A dropsey in the belly, for the most, arises from the “ *menstrua* being, for the greatest part, or altogether, “ obstructed.” If a dropsey then is once formed from
this

^p Artis obstet. compend. pag. 50.

this cause, an evacuation, by blood-letting, must be very prejudicial, though it may sometimes be of very great service in the suppression of the *menstrua* itself, which was the original cause of that dropsy. *Helmont*¹ has very well remarked in the place already cited, where, treating of this matter, he says, *Nam primo peccat abundantia bona, dein superfluitate onerosa, mox privatur vita, & virus evadit*; “For first of all it abounds, though good, to excess; then it overloads by this superfluity; afterwards it loses all its life and spirit; and last of all becomes a slow poison.” Whence he concludes, *Peccatur ergo a scholis per venæsectiones, dum virgines, ex parte menstrui, palpitationem sentientes succurrere satagunt, sine distinctione: nam quanquam menstruum primi gradus per phlebotomiam revulsum palpitationes sedet, in tertio tamen menstrui gradu, exitiale remedium prædixi archiatri nostris*. “Therefore it is wrong of the schools, officiously to pretend to give relief by venæsection to girls, whose *menstrua* are defective in part, and who complain of palpitation: for although a revulsion of the *menstrua* in one degree of deficiency may allay these palpitations, yet let me tell our archidoc-
 “doctors of physic, that such a remedy, in *menstrua* of three degrees, will prove very pernicious.” He even adds, that he had seen young girls taken off suddenly by blood-letting, where he had given his positive advice against it.

In the beginning, therefore, bleeding may be serviceable in taking off the *plethora*; but at a later period, when it is degenerated into a *cacohymia*, it is not to be attempted, except with the greatest caution. And the advice *Celsus* gives with regard to bleeding², which we mentioned on another occasion, at § 890, 1. may here take place; *quod nempe inutilis sit, cum jam spacio ipso materia vel exhausta est, vel corpus*

¹ In capitulo lunare tributum, pag. 584. col. 2.

² Lib. II. cap. 10. pag. 80.

corpus corrumpit, ut detractio imbecillum id facere possit, non possit integrum; “to wit, that it must be entirely
 “useless, when either the matter is now, through
 “length of time, itself exhausted, or corrupts the
 “body, so that an evacuation of this kind may ren-
 “der it weaker, but can never restore it to soundness.”

To lessen the quantity of good blood, it is sufficient to open a vein any where in the body; but yet we see almost all physicians advise venæsection, in this case, to be performed in the feet. *Galen* has absolutely insisted upon it^s. *Nam plenitudines, a suppressis mensibus ortas, omnino per crura evacuabis, sive venam secare oportet, sive scarificare: sectæ enim in cubito venæ mulierum revellere purgationem assolent.*

“For as for fulnesses arising from suppressed *menstrua*,
 “you must evacuate them solely by the legs, whether it
 “is done by opening a vein, or by scarification; for,
 “in women, bleeding at the arm usually diverts the
 “menstrual courses.” In these, at the same time, he advises not to delay the evacuation, and if their veins are small, he prefers scarifications, which he observes are also powerful in bringing down the *menes*. The same thing is affirmed by *Oribasius*^t, who recommends scarification in a suppression of the *menstrua*: *Statutum autem purgationis tempus expectare oportet: tuncque, quum nihil vel parum sponte fluxerit, eatenus detrahente hoc auxilio uti debemus, quatenus usus postularit.* “But it is necessary to wait to the usual
 “period of purgation: in proportion as little or no-
 “thing shall come away, so we are to have recourse
 “to this evacuating remedy, according as it may be
 “thought necessary.” He seems however, by this, to point out, that he would only have such a quantity of blood taken away by the scarifications, as after the suppression being taken off, or greatly lessened,

^s De curand. rat. per venæsection. cap. 11. Charter. Tom. X. pag. 440.

^t De cucurbit. scarificat. hirudin. &c. cap. 20. Ibid. pag. 458.

lessened, there might remain still a superfluous quantity of blood in the body to answer the purposes of the *menstrua*. But the use of scarifications, in promoting the menstrual discharge, will be shewn from what immediately follows: *Quibusdam etiam mulieribus, ut de more menstruæ purgationes iterum redirent, hoc auxilium maxime contulit; nam continua in inferiore partes sanguinis eductis, inclinationem viamque ipsi præbet*: “ With some particular women this remedy will
 “ greatly contribute to make the menstrual purga-
 “ tions return in their usual manner; for drawing
 “ down the blood continually towards the lower
 “ extremities, gives it a stronger tendency and
 “ opportunity to come that way.”

Since the circulation of the blood has been known, the utility of bleeding in the feet, to bring down the *menstrua*, is more clearly understood; and though not indeed in every suppression of the *menfes*, yet it is of great service in very many cases. If a tension and sense of weight be felt about the *pubes* and groins, and a pain about the loins, at the time of the menstrual period, we know that the uterine vessels are quite full and distended, though the extremities of the arteries, opening into the cavity of the *uterus*, may not, at the same time, be sufficiently dilated to allow the distending blood to pass. Should these vessels then, after warm bathing, particularly by way of steam, be relaxed, and the motion through the repleted vessels be, at one and the same time, increased, there are hopes of getting so far the better of that resistance towards their extremities, as to procure an easy discharge of the *menstrua*, and, of course, a relief to all these troublesome complaints. In the first article of this paragraph was mentioned a compression being made on the crural arteries, and with this view indeed, that the blood, moving through the iliac arteries, not being able to pass freely by the crural, might press the stronger for admittance through the
 uterine

uterine vessels, and thus surmount the resistance towards their extremities: but opening a vein in the foot, the motion of the blood through the crural artery, of that side where the vein was struck, is rendered quicker and freer, and, of course, a considerable pressure taken off the uterine vessels; whence some have concluded, that bleeding in the feet lessens indeed the quantity of blood, but in other respects rather is hurtful, than of service in bringing away suppressed *menstrua*.

It must however be considered (see § 106, 8.) that by the *plethora* itself the larger vessels come to be distended, the secretions through the smaller vessels altered, the veins compressed, the extreme orifices of the smaller arteries shut up by the swelling of the larger branches: hence a free circulation is hindered and choaked up. Whilst the uterine vessels then are thus distended, they are unable to contract themselves, or to send forward the blood contained within them; whence every thing here begins to tend towards stagnation. Soon as a vein is once opened in the foot, the blood will be thrown more quickly, and in larger quantity, into the crural artery, the uterine vessels will not be so much pressed, nor so much distended: hence the arteries will begin to contract themselves, and send forward the blood into the veins, which may now empty themselves freely into the iliac vessels, being at this time not so much distended: hence a free circulation, through the substance of the *uterus*, will return; the furthest extremities of the arteries will be easily dilated; and the menstrual flux, before suppressed, will now be restored, whether owing, as we said before at § 1284, to a *plethora* of the whole body, or to that of the *uterus* alone.

It is very well known that in very plethoric people the motion of the blood is almost entirely stopped; whence, from the blood-vessels being so turgid, they appear dull, absent, and sluggish. As soon as this plenitude is taken off by a large bleed-

ing, the motion through the vessels is restored; the pulse, before suppressed, becomes stronger and quicker; the body, shaking off the sluggishness, acquires a sudden briskness and vigour; and the circulation of humours through all the vessels is restored. If this reasoning is applied to the *uterus*, distended in its vessels by the accumulated blood, which cannot get forward by their extremities, the reason of that benefit, which in such a case we may expect from bleeding at the feet, will more evidently appear.

3. If the *menfes* are suppressed from a *plethora* of the whole body, then, after bleeding, the purgatives called antiphlogistic, which dissolve and evacuate the humours without increasing the circulatory motion, may be very serviceable; such as are prepared, for example, of tamarinds, leaves of senna, cream and crystals of tartar, &c. whose uses, in the cure of acute distempers, we have formerly taken notice of.

But the uterine purgatives, which are for the most part so called, are such as, together with their cathartic virtues, dissolve every thing tough and viscid, by attenuating and warming, supplying the want of bile, or correcting its inactivity. These, however, principally take place, when girls, after a suppression of the *menfes*, incline towards a bad, viscid, cold, and sluggish habit of body, or even where the *menstrua* are deficient from this bad habit of body. The *primæ viæ*, at this time, are usually loaded with a filthy viscid matter, which ought first to be dissolved, and then expelled out of the body; and it is usual, for the most part, before-hand to administer the remedies recommended in the first article of this paragraph. *Hippocrates* advises ^u, *Si vero menses omnino non prodeunt, pro morbo crassi, lenti, & glutinosi red-*

^u De mulier. morb. Lib. I. cap. 6. Chart. Tom. VII. pag. 732.

redduntur; imprimis igitur ventrem sursum ac deorsum purgare oportet: “That if the *menfes* do not come away at all, being through disease rendered thick, tough, and glutinous, it is then, in a particular manner, necessary to purge the belly both upwards and downwards.” For there are even hopes, from the very shock itself given to the body by such medicines, that the menstrual flux may be promoted; while, at the same time, all that is tough and glutinous may be entirely thrown out. Elsewhere^w, likewise, he advises, after the application of warm steams to the *uterus*, to purge the belly downwards by purgative medicines; taking care, however, not to raise a *hypercatbarfis*, which may occasion weakness from too great an evacuation.

For this reason, in the *Materia Medica*, among the uterine purgatives of this class, are reckoned, myrrh, gum ammoniac, bdellium, &c. which move the belly only gently, requiring even a larger dose to have that effect; whilst, at the same time, their aromatic flavour, so friendly to the nerves, fills the whole course of the first passages, discussing those flatulencies frequently so troublesome in such cases, and rousing the languid action of those *viscera* by a grateful, and yet not too heating *stimulus*.

Aloës has obtained the first place amongst almost all uterine purges, which, at the same time that it purges the belly, all physicians agree, strengthens the stomach. Whence *Celsus*^x, recounting the purgative remedies, says, *Sed medicamenta stomachum fere lædunt; ideoque omnibus catharticis aloë miscenda est:* “But purges are in danger of hurting the stomach; and therefore aloës should be mixed with all cathartics.” This medicine in a lesser dose, and frequently given in the quantity of three or four grains, or mixed with the aromatic gums just

^w De locis in homine, cap. 18. Ibid. 377.

^x Lib. II. cap. 12. pag. 84.

just now mentioned, is of excellent efficacy in a suppression of the *menstrua*, as also when a customary evacuation of blood by the hæmorrhoids happens to be stopped. Aloës enter the composition of every elixir, called *Elixir proprietatis*, which, with the addition of saffron, myrrh, and sometimes other ingredients, are always to be met with in the shops. A composition, similar to these, called *Massa pilularum Ruffi*, Ruffus's pill, is every where in use, and is chiefly made up of aloës, saffron, and myrrh; whence it is called by some *Dry elixir proprietatis*. All these are usually administered in such a dose, as may only purge the belly gently, without weakening the strength of the bowels.

It may seem strange, perhaps, that bryony and colocynth, which are justly reckoned among the roughest purges, should be numbered in the class of uterine purgatives; but even these are added only in small doses to the milder uterine medicines, or given in such proportions as cannot do any harm. Thus the white sediment procured from the juice of bryony, recommended by some physicians, I have given to the quantity of thirty grains, which has been only followed by one loose stool. The bryony root is an ingredient in what are called hysteric waters in some dispensatories: but these being either prepared by distillation, and then the bitter and purgative quality remaining in the extract, the spirituous liquor, which comes over by the alembic, may be taken without danger; or, if this medicine is prepared by infusion alone, then it is only administered in drops, that the dissolving power of this plant, so much recommended, may take effect without purging the belly; in which it is so very powerful, when taken in a sufficient quantity, that only the strongest and robust constitutions are able to bear it. So in the Vienna dispensatory there is also a distilled compound bryony water from the juice of bryony root, mug-wort, rue, &c. favouring

savin, and other uterine medicines, with the addition of strong wine; which may be very safely taken without danger of purging.

The same is true of the bitterest colocynth, which, whilst it is powdering in the shops, purges sometimes the by-standers, if they continue any time in the atmosphere where it flies about. Sometimes also it is mixed with ointments, and applied to the belly, in order to procure a stool. The Arabian physicians frequently administered colocynth; but they made up the powder into a mass with gum tragacanth, which afterwards was formed into round pieces, and kept in the shops under the name of *trochisci alban-dal*: by this soft mucilage they endeavoured to correct the so-much-apprehended acrimony and roughness of the colocynth. Sometimes they ordered these troches to be again reduced into powder, and made up once more with gum Arabic; nay, they frequently repeated this for three times successively.

At present the colocynth is seldom administered as a purge by itself alone, but is usually added to other purgatives, in the quantity of a grain or two, to quicken their operation, especially in persons whose bellies are very difficult to be wrought upon by cathartic medicines: for which reason it enters into several purgative compositions of the shops, such as *confectio hamech*, *extractum catholicum*, *pilulae cockiae*, &c.

But as the rougher purging medicines cannot, with prudence or safety, be administered to tender girls, it is evident that colocynth can hardly deserve to be reckoned amongst uterine purges.

Yet this medicine has another peculiar advantage attending it, and that is, if the eighth part of a grain given every three or four hours, then it does not purge, but, in languid phlegmatic habits, is of wonderful efficacy to increase the heat and motion by a gentle *stimulus*: it may be very fitly administered by

mixing a little of the powder with myrrh, *galbanum* or any other which stand recommended under this class. There was formerly a secret medicine sold about, which was nothing else but tincture of colocyinth prepared with spirit of wine, with the addition of some cloves to disguise it, from which it was called the Golden Tincture, and was of service to many where, for instance, a cold, phlegmatic, bad habit of body had occasioned a suppression of the menstrual flux.

4. The term *emmenagogue* is used in a very general way, and does not in all respects agree to medicines classed under this denomination; whence there is great caution and nicety here requisite in making a proper choice. Most of the medicines which are recommended as such are warm and aromatic; some of which are not to be taken but with the utmost caution. *Marum* is of a very fragrant aromatic flavour, but so very hot as to affect the nostrils with a heat almost resembling a burning coal; hence, in persons of a plethoric habit, or in young women of a warm constitution, it may do a great deal of harm: in colder constitutions indeed it may be of greater service; but the plant ought to be infused in a good quantity of water, to dilute that aromatic acrimony. Savin, of all the plants almost that are known, yields the greatest quantity of a pretty acrid aromatic essential oil; so that *Hoffman*^v, by distilling this herb with water, *per vesicam* as they say, could, from every pound of the plant, procure very near three ounces of oil; at least, from two pounds if the distillation was rightly managed, he could obtain five ounces of the aforesaid oil. From other observations it likewise appears, that if a little of the infusion, or decoction, of the savin plant, shall be mixed with some blood recently drawn, it gives it a brighter red colour, and a greater degree of fluidity.

^v Observat. physico-chem. pag. 8.

dity². But seeing the spicy part of the plant lies concentrated in the distilled oil, we may easily imagine what a *stimulus* from savin may be applied to the body, when at the same time it is endowed with a power of dissolving the blood. Worthless, abandoned women, sometimes make a wicked use of this plant and its distilled oil, in order to procure abortion: hence in some places it is by law forbidden to give or sell either the plant, distilled water, or the essential oil, to any one, unless when prescribed by a physician. Pretty similar to this plant, in flavour, taste, and medicinal virtues, is the *thya*, a small shrubby plant, and, in like manner, an ever-green. *Artemisia cardiaca* are milder, and of much less efficacy: even the elder-flowers breathe a grateful fragrancy, but are rather cooling in their nature; whence, in hot inflammatory distempers, they are frequently used both externally and internally. As to the rest of the medicines, in the *Materia Medica*, ranked under this class, they are of an aromatic nature indeed, but yet by no means to be compared to these very hot ones just now mentioned.

Whence it is very evident, that emmenagogues, so much recommended, are not to be given indiscriminately, but must be left to the skilful physician's prudence to consider, in each case, which may be administered with the greatest safety and advantage; and, in a suppression of the *menstrua*, if the physical indications should make it necessary to employ remedies of a forcing nature, his discretion will lead him to begin with the gentler sort at first, gradually advancing to those of a more acrid stimulating nature. It would seem still more eligible, if, together with these warmer medicines, things of a mild, watery, softening nature were given, such as have been recommended at § 75, when we spoke of the cure of diseases arising from a spontaneous visciditv. This also seems

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to

² Schwencke Hæmatolog. pag. 187.

to have been the intention of the celebrated author of these Aphorisms, when in his *Materia Medica* he recommends the stimulating medicines which were advised at § 75, 5; but, at the same time, subjoins to them such as were recounted at § 54, N^o. 4. where, in the cure of strong and rigid *viscera*, he recommends and enumerates medicines that are of a thin, lenient, and soothing nature.

We may also trace out some footsteps of this method of practice in *Hippocrates*; for he recommends acrid medicines, but at the same time conjoins them with things of an emollient kind^a. *In mensibus autem, si quidem sanguis erumpat (satis est); sin minus cantharides quatuor, resectis pedibus, alis, & capite, bibat, pæoniæque nigræ grana quinque, & sepia ova, linique semen ex vino. Quod si dolor, sique stranguria, detinuerit, in aqua calida desideat, & aquam mulsam aquosam bibat.* “ In
 “ the *mensēs*, if the blood come away (it is very well);
 “ but, if not, let her drink, in a little wine, four
 “ *cantharides*, with their head, wings, and feet, cut off,
 “ five grains of black pæony, the eggs of the *sepia*,
 “ and some lint feed. But, if she is seized with pain,
 “ or strangury, let her sit above the steams of warm
 “ water, and drink a good deal of thin drink of
 “ water and honey.” Nay, should the *mensēs* not even then come away, he is for having the same things repeated, and desires, that *in purgatione mercurialem edat, & polupos coctos cibisque mollibus utatur*, “ during her purgation she eat of the herb
 “ mercury, and make use of boiled polypuses along
 “ with other soft meats.” Much the same he mentions in another place^b, where he orders an application, made up with *cantharides*, to be put to the *uterus*, which, however, is to be anointed the day following with some goose grease; and a little after he recommends it to be washed with something warm twice a day.

From

^a De natur. mulier. cap. 8. Charter. Tom. VII. pag. 685.

^b Ibid. cap. 18. pag. 689.

From these and many other places in *Galen*, and the other antient physicians, we find it is no new thing to make use of acrid remedies in the cure of a suppression of the *menstrua*; but, at the same time, it is abundantly certain, that both in the *regimen* and diet, as well as in the cure, they strictly recommended soft, diluent, and soothing drinks to be taken along with them.

When the power of electricity began to be employed in the cure of diseases, the menstrual flux was, from that wonderful power, observed to be considerably increased, and to flow in greater abundance than at any time before; nay, both before the approach of the periods, and after they were gone off, a woman has been known to get a *fluor albus*, which she never had, on any former occasion, experienced in her life^c. But the electrical shock, like thunder, penetrates every thing instantaneously: hence the vessels are opened, and the motion of the humours is, in a moment, quickly increased.

But seeing the liquids may also stagnate in the vessels from too great a degree of viscosity, very eminent physicians have therefore placed great confidence in such remedies, as, besides their stimulating qualities, were also possessed of a power of attenuating and dissolving. The celebrated *Mead*^d, with this view, advises, among other things, mercury six times sublimated; but, above all the rest, he recommends the black hellebore, which, he says, he hardly ever remembered to have failed. As to the quantity, he usually gave a tea spoonful of the tincture of black hellebore twice a day in a little warm water: *Et illud quidem notabile observavit, quod quotiescunque aut propter malam conformationem partium, aut alia quacunque de causa sine effectu datum esset hoc medicamentum, sanguis per alias vias propulsus fuerit, unde clarissime constat*

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stat

^c De Haen. rat. medend. part. III. pag. 241.

^d Monit. & præcept. medic. pag. 246, 247.

stat, quanta vi sanguinem propellendi polleat ista medicina: “ And he observed, what indeed is very remarkable, that as oft as this medicine, either on account of the wrong conformation of the parts, or from any other cause whatsoever, had been given without having its proper effect, the blood was sure to be propelled through some other passages: whence it appears, in a very conspicuous manner, with what a mighty power this remedy is possessed of attenuating and propelling the blood.”

Different authors have recommended different remedies; but they are almost always of such a kind as act either by increasing the motion of the humours, or by their dissolving power, or both these united together. But if the expulsive powers are roused up into action by these stimulating remedies, before the liquid, which is to pass out, is properly attenuated for that purpose, or the emissaries by which it is to go be sufficiently pervious, all the complaints will be exasperated from the use of warm emmenagogues, and sometimes very dangerous hæmorrhages arise in different parts of the body, from the vessels of the *uterus* continuing to be so obstinately constricted. Whence that salutary admonition of *Hippocrates*, which was mentioned on another occasion, at § 605, N^o 13. with singular propriety, takes place here: *Corpora si quis purgare voluerit, meabilia (ἐνροα) facere oportet*: “ That if any one has a mind to purge the body, he ought, first of all, to reduce the matter to be expelled to such a consistence as easily to pass out.” The antient physicians were very careful in this particular, and used every means to dispose the vessels to an easier dilatation, before they ever attempted to give the warm emmenagogues; or at least joined emollients along with them, as will evidently appear in the article following.

5. How

* Aphorism 22. sect. 1. Charter. Tom. IX. pag. 38.

5. How much benefit *Hippocrates* expected, from a disposition in the vessels towards an easy dilatation, in promoting the *menfes*, may appear from hence, that he advises young virgins to marry, and, should they conceive afterwards, assures them of perfect health. It is very well known that the uterine vessels, during the time of gestation, gradually dilate so much, that those shall acquire the largeness of a goose-quill, and even exceed it, which before pregnancy were hardly obvious to the naked eye: whence it so often happens, that after child-bearing the *menstrua* return in much greater quantity, as the vessels so much distended during gestation may not as yet have regained their former tone and firmness. *Hippocrates* recounts several troublesome symptoms^f that are apt to affect virgins come to maturity. *Cum sanguis in uteros confluit, velut effluxurus, & tamen effluvium non habet*, “When the blood runs towards “the *uterus* with an effort to get out, yet is denied “a passage,” then he says, *Ego vero impero virgines, his pathematis affectas, quam citissime viro jungi; si enim conceperint, sanæ evadunt*: “Such virgins “as are affected in this manner, I strictly injoin to “get themselves joined to a husband as soon as “possible; for if they happen to conceive, their “health will quickly be restored.” It has been observed, what we shall afterward take notice of in the diseases of pregnant women, that in the bodies of animals dissected immediately after coition, there appears something like a slight inflammation upon the *uterus*, as the parts look red, which formerly used to be of a palish colour; and therefore the vessels must be more considerably distended, seeing they had given admission to the red particles of the blood. In another place, after advising various things to take off a suppression of the *menfes*, he adds, last of all^g,

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Morbo

^f De virginum affectibus, Charter. Tom. VII. pag. 679, 680.

^g De natur. mulieb. cap. 8. Ibid. pag. 685.

Morbo autem liberabitur ubi conceperit, “ She will, “ however, be freed from the disorder whenever she “ conceives.” But still greater effects he expected from bringing forth a child^h: De mulierum morbis sic enuncio; mulierem quæ non peperit, gravius & celerius a mensibus quam partum expertam, ægrotare: quum enim peperit, ei venulæ ad menstrua sunt meabiliores (ἔυρωτερα τὰ φλέβια). Meabiles autem ipsas faciunt lockia; quæ purgatio quædam est, &c. His ita constitutis, quum mulier puerperii purgamenta experta fuerit, minus laboriose menstruis purgatur. “ As to women’s disorders “ my opinion is this; that a woman, who never has “ brought forth a child, shall be sooner and more “ grievously afflicted from the menstrua than she who “ has experienced child-bearing; for after having “ been once delivered at her full time, the little “ vessels become more pervious to the menstrua, (ἔυρωτερα τὰ φλέβια) the veins more permeable. “ They are made permeable too by the flowing of the “ lockia, which is a kind of purgation, &c. Things “ therefore being constituted in this manner, a wo- “ man, having once experienced the cleansing after “ child-bearing, will have less difficulty and trouble “ in her future menstruations.” Nay, farther, as those vessels, which during gestation had undergone so great a degree of dilatation, may afterwards be more easily distended; a woman, who has once been a mother, will even feel less pain from a retention of the menstrua. Quod si mulieri, quæ jam peperit, affectio aliqua oboriatur, ita ut procedentes menses rite repurgari nequeant, ea facilius, quam si haud peperisset, laborem feret. Assueti namque sunt uteri, & corpus, ut impleatur, idoneum nimirum utero gerenti, simulque magna est in corpore amplitudo. “ But should any disorder “ arise in a woman who has once been fruitful, by “ which the approaching menses are hindered from “ coming properly away, this woman shall bear the inconvenience

^h De mulier. morb. Lib. I. cap. 1. Ibid. pag. 728, 729.

“inconvenience and trouble better than one who never has experienced child-bearing; for the *uterus* is seasoned and accustomed as it were, and the whole body capable of being filled, that is, in a woman bearing children; and there is, at the same time, a great deal of room in the body.”

But seeing it cannot suit every virgin to enter into the married state, every means of art have, therefore, been employed to cause the uterine vessels to yield more easily, and to send forth, by their extreme orifices, the blood, with which they are distended. For this purpose, *Hippocrates* has been at very great pains to recommend the cherishing these parts by gentle heat and moisture. Thus he orders the *uterus*, and parts adjacent, to be fomented with warm water, and these, together with the legs, to be pretty well warmedⁱ. The whole body, and principally about the *uterus*^k, he would have gently cherished, and washed twice a day with warm water. In another place^l, he gives orders to wash with warm water, and to sit with the whole body above it, and sometimes to foment upwards to the navel, and at intervals to apply, in place of this, something purgative and cleansing, but nothing sharp or biting. But as the rest of the body may be in good condition, when *uteri per se morbum habent*, “the *uterus* is alone disordered,” in that case, he cherished the *uterus* with the steams of a warm bath, conveyed through a reed, that the rising vapour of the hot water (though it must not be too much so) may be properly conveyed into the cavity of the *uterus*^m, and, at the same time that he describes the method, lays down the proper cautions necessary to be observed. He added, however, to this vapour likewise, the smell of garlick, only to stimulate gently the internal surface of the *uterus*, now considerably softened,

ⁱ De mulier. morb. Lib. II. cap. 27: Ibid. pag. 816.

^k Ibid. cap. 28. ^l Ibid. cap. 37. pag. 820.

^m Ibid. cap. 20. pag. 808.

softened; for he advises not to bruise the garlick when it is to be put into the water, as garlick, we know, when bruised, throws about its flavour every where, so as to make the tears come from people's eyes who happen to stand near it. In another place he advises lamb-skins, with their wool, to be applied warm to the belly; and several other such remedies he recommends in different places of his writings. Many other artificial remedies to soften the vessels of the *uterus*, in order to promote the menstrual flux, are to be seen, as they are collected by *Moschio*^o, where the cure of a retention of the *menstrua*, or when they come away with pain and strangulation, is attempted by means of bathing, fomentations, ointments, pessaries, frictions, and cupping. Pessaries, however, can hardly be proper in young virgins, lest some injury, or violence, be done to the seat of virginity. In the *Materia Medica*, under this head, are recounted plasters, fomentations, ointments, liniments, and steams; which, by lubricating, softening, dissolving, stimulating, and warming, may be employed as they happen to be required by the different indications of cure.

6. It was said formerly, when we were inquiring into the causes of too great debility in the solid fibres of the body, that excessive distraction of the fibres and vessels occasioned such a relaxation. But at § 106, among the effects of a *plethora*, the too great dilatation of the vessels was mentioned as one: and therefore, if the vessels, on account of a suppression of the *menstrua*, arising from a *plethora*, shall be too much distended, and there has been for some time good reason to suspect such a debility, either in the uterine vessels, or in the other vessels of the body; then in that case, chalybeats and astringents may have

ⁿ De superfoetatione. cap. 17. Ibidem, pag. 869.

^o No. 126. apud Spach. pag. 11. & Ibid. harmon. gynæc. part. post r. cap. 2. pag. 20.

have their use, as hath been said at § 28, No. 4. and the more so, as the habit of body in women, by nature, is commonly of a laxer composition, whence they can bear more easily the effects of strengthening remedies. This is remarked by *Hippocrates*, when he says^p, *Mulieres autem sicciore victus ratione sic uti oportet; sicca namque cibaria ad muliebrium carnum molitiem magis sunt idonea, & meraciores potus ad uteros, & fœtus nutritionem, meliores existunt.* “Women, however, “ necessarily require a drier kind of food; for the “ drier sorts of aliments are more agreeable and salutary to the delicacy and softness of female flesh; “ and genuine hearty liquors are by much the “ properest, both for the *uterus*, as well as for “ the nutrition of the *fœtus*.” The truth of this remark of *Hippocrates* is every day seen by physicians, in those places where women indulge much in the very bad custom of drinking great quantities of warm watery infusions, especially if at the same time they are confined to a sedentary life. They are always delicate, relaxed, and unactive, hardly ever fruitful, and when they do conceive, frequently suffer abortion. The wise legislator *Lycurgus*^q, *corpora virginum cursu, luctu, discorum & telorum jactu, exercuit, ut & fœtus radix, validum in valentibus exordium sumens, germinaret melius, atque illæ, strenuæ partus excipientes, bene & facile adversus puerperii decertarent labores,* “ exercised the bodies of the Spartan “ virgins in running, wrestling, throwing the quoit “ and javelins, that both the first beginnings of the “ *fœtus*, having a stronger root in bodies so healthy, “ might grow more vigorously, and also that they “ themselves, sustaining the offspring with so much “ activity and briskness, might encounter the pains of “ child-bearing with more ease and safety.” Thus the legislator wisely extended his care to the future offspring,

^p De salub. victus ratione, textu 24. Charter. Tom. VI. pag. 233.

^q Plutarch. Tom. I. pag. 47.

offspring, seeing that the soft and the delicate, even when joined to stout and vigorous husbands, produce but a puny, weak, and sickly progeny.

But chalybeats and strengtheners are likewise prescribed in the green-sickness, where girls have a leucophlegmatic swelling all over the body, and in place of sound wholesome blood, nothing, besides a viscid inactive humour, moves through the vessels: in these the *menstrua* are defective for want of good blood, and every thing in the body is depraved. Here the filings of steel, infused in wine, with other aromatic and strengthening ingredients, and an ounce of this infusion, taken three times a day, have been known to be of remarkable service. It is usual to give a gentle purge before the use of this medicine, to clear the *primæ viæ* of any filthy viscosity; such as, for instance, fifteen or twenty grains of *Ruffus's* pill, or any other similar shop-composition, taken for three days together, in the morning, with an empty stomach. Most salutary and surprising effects have followed the use of this medicine: for in a few days the white swelling of the body subsides; the lips and gums, that before were pale, begin to look reddish; the rosy colour returns to the cheeks; and whereas, before, on the least motion of the body, they were breathless, lazy, and languid, now their former alacrity and briskness come back, and in three or four weeks all their functions are quite restored; good wholesome blood begins to appear; and soon after, the *menfes* flow spontaneously at regular periods; provided they make use of that strength, which they have recovered, by the use of this remedy, in the motion and exercise of their bodies; for when they are cured, if they should again indulge themselves in drinking large quantities of warm watery infusions, and in a constant sedentary way of living, they will most certainly relapse again into their former disorder. It has often happened to me,

that I have been obliged to repeat the same course thrice, nay, four times, in the space of one year, before they became sensible of their error, and grew more obedient to rules; which if they neglect to observe, the sluggish inactive languor will at length yield to no remedies, and after they have dragged on a few sickly months in a state of dull stupid insensibility, sink under it, and die at last lethargic.

In such a case, these remedies are of service: bleeding again does harm, as it takes that little quantity of red blood, which still circulates through the vessels, away from the body. But when there is a redness appears in the lips, gums, and corners of the eyes, with a fulness of the veins, and a warmth all over the body, and the menstrual flux shall at the same time be suppressed, in that case such medicated steel wines must assuredly do harm; for then there is plenty of red blood, rather too much indeed; and therefore bleeding in the feet, warm bathing, and fomentations, &c. which relax the vessels of the *uterus*, and take off their resistance, may be highly proper. See also what hath been said, at § 1083, concerning the cure of an epilepsy, arising from an interception of some customary excretion.

From all which it is plain, that the greatest prudence and caution are required, in making a proper choice and use of emmenagogues.

There is a *formula* of this medicated wine, in the *Materia Medica*, at § 1250. In the mean time, I believe, it is necessary to take notice, that the quantity of wine is rather too small: in place of two pints of Rhenish wine, six may be taken, lest the medicine be too strong: and when this is done, it will be still sufficient to give only one ounce three times a day; for it is safer to give it in a smaller dose, especially as it is to be taken constantly for some time.

S E C T. MCCXCII.

HAVING by these means removed the original source of the disorder, almost all the bad symptoms, mentioned, (1285, 1286, 1287.) disappear of course; or they are cured, according to the nature of that particular disease, to which they seem to have the nearest resemblance. This may easily be performed by the rules already laid down.

Formerly, at the numbers quoted in the text were recounted several bad symptoms, which, it was observed, took their rise from a suppression of the *menstrua*. Most of these, when the menstrual flux returns in due quantity, and at the accustomed period usually disappear of themselves. But it was also at the same time remarked, that from that very cause almost all the natural, vital, and animal functions might be depraved: if, therefore, the *menfes* have been long obstructed, there may afterwards remain several troublesome symptoms, which require a particular management, even though the menstrual flux should return at regular periods; so in like manner when the menstrual blood goes out of the body by unusual and extraordinary outlets, there may remain a weakness of the vessels belonging to those places by which it went out, even after it has begun to flow regularly, according to nature, by the vessels of the *uterus*. But from what has been said, § 1287 it appeared, that all the *viscera* might be weakened from this very cause; whence may arise, as well from the different injuries done to the vessels, as the various degrees of depravation of the humours, an endless complication of disorders, which may remain
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after the restoration of the menstrual flux, and require to be cured, which is frequently very difficult to accomplish. It would be superfluous here to dwell upon the cure of all these disorders, seeing most of them have been already handled in former paragraphs: but they may be all conveniently reduced to the nature and cure of these disorders, to which they bear the nearest resemblance.

Thus, for example, it was said, at § 1286, that the *menfes*, when intercepted, were sometimes carried to the lungs, and there gave rise to a *hæmoptoë*, or spitting of blood. Should the lungs, from thence, have contracted any ill disorder, it is plain, recourse must be had to the method of cure laid down in the chapter concerning a *phthisis*. So, in like manner, it was observed in the same paragraph, that hard tumours were sometimes produced in the breasts from suppressed *menstrua*, which required to be treated in the same way as a *schirrus*. *Hippocrates* has remarked¹, that if the *menfes* should indeed appear, but come away in smaller quantity than is proper, among other bad symptoms, the following are to be observed: *Dolet alias atque alias corpus maximeque lumbos, & spinam & inguina, manuumque & pedum articulos; neque hæc simul dolent, sed vicissim; quocunque secretus sanguis qui uteris inesse nequit, impetum fecerit, & qua parte corporis decubuerit, tumor existit, &c.* “ There is
“ a pain sometimes in one part of the body, some-
“ times in another, chiefly about the loins, small of
“ the back, groins, and the joints of the hands and
“ feet; neither are all these pained at once, but in
“ succession and by turns; and wherever the secreted
“ blood, which the *uterus* cannot contain, shall force
“ its way, or on whatever part it happens to fall,
“ there a swelling takes place.” A little after he adds, that sometimes *claudam reddiderit, aut aliquas partes*

¹ De mulier. morb. Lib. I. cap. 7. Charter. Tom. VII. pag. 733, 734.

partes impotentes effecerit, si sanguis præ rigore, & cibi fastidio quemcunque in locum irruperit, circa nervum concretionem habuerit, “it makes the patient lame, or
 “disables some particular parts, when through cold
 “and stiffness, or absolute dislike to nutriment, the
 “blood shall rush into any place, and form a con-
 “cretion round some tendon, ligament, or nerve.”

It is pretty plain, that the cure of such disorders hath an obvious relation either to that of the palsy, or to the various diseases incident to the joints: the same holds true with regard to all the rest.



The DISEASES of WOMEN with CHILD.

S E C T. MCCXCIII.

WHEN a woman is once with child, she is liable to be affected by very many disorders, which owe their origin entirely to pregnancy.

It is very obvious that we are here only to consider those disorders which depend on pregnancy as a cause, and not those which may indeed happen during pregnancy, but owe their origin to other quite different sources; for women with child are liable to diseases almost of every kind whatsoever.

From the demonstrations of physiology, it appears evident, that at the time when a woman, spurred on by amorous and eager desire, is properly filled with the male's prolific seed, and conceives, there is a remarkable change made in the *uterus*, Fallopian tubes, and *ovaria* *. From many observations too, we are assured that women, in the act of copulation, when they are impregnated, enjoy a more than ordinary degree of pleasure; for which reason, this change in the female organs appropriated to generation, is also, with good reason, thought to be greater at the time of conception, than when coition is performed without impregnation immediately following.

We formerly took notice, at § 1285, of that wonderful, regiminal power, governing or consenting principle, (so termed by *Van Helmont*) wherewith the *uterus*, being affected from the slightest cause, may

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* Vide Boerhaav. institut. medic. § 668, & seq.

give disturbance to all the vital, animal, and natural functions, and that, indeed, in a way altogether various and surprising. Some things of a similar nature *Hippocrates* has also remarked to happen at the time of conception; for thus he says†: *Liquido autem constat harum rerum peritis, quod mulier ubi concepit, statim inhorrescit, & incalescit, ac dentibus stridet, & articuli reliquumque corpus convulsio prehendit, & uterus torpidusque iis, quæ puræ sunt, accidit.* “It is very well known, to people conversant in these affairs, that when a woman no sooner conceives, than she begins to find a shivering and heat all over; her teeth chatter, and her joints, with the other parts of her body, are seized with convulsions, and the *uterus* with numbness; and this happens even to women quite pure”. Here he seems, by the word *pure*, to mean healthy, active women, fond of venery, whose *uteri* are quite clean, nor clogged with viscid humours, or with that called the *fluor albus*; for he immediately subjoins what follows. *Quæ vero crassæ & mucosæ patiuntur, pleræque harum malarum illa non sentiunt.* “But when flabby, thick, phlegmatic women are in this condition, most of these feel nothing like it.” Then he wisely subjoins, *Ac sicut quantum illæ mihi ita indicarunt, tantum me scire profiteor*; “And as far, indeed, as I have it from them, so far only do I pretend to know.” For a physician can no way come at the knowledge of these things, but from the accounts given by women themselves. It is however certain, that women of this sort, who are of a cold phlegmatic constitution, are not easily spurred on to venery, hardly feel any delight in coition, and yet do sometimes conceive, though they perceive none of those symptoms we have just now mentioned: in the mean time, however, it commonly happens that women, when they conceive, feel a surprising change at that time; and

known

† De carnibus, cap. 8. Charter. Tom. V. pag. 309.

know several married ladies of worth and credit, who have borne a good many children, and who, from these signs, could calculate the time of conception and future delivery, even with the greatest exactness.

This is farther confirmed by *Hippocrates*“, where he assures us, that *meretrices publicæ, quæ sæpius hæc expertæ sunt, ubi cum viro congressæ sunt, nescant quando conceperint, moxque conceptum perdant, quo postea jam perduto velut caro excidit, &c.* “ the public courtesans, “ who frequently experience these symptoms, after “ venereal cohabitation, know very well when they “ have conceived, and immediately destroy the conception, which, when destroyed, drops away like “ a piece of flesh, &c.” From signs almost similar to these, he determines concerning women’s fruitfulness, after irritating the genitals by pessaries, as in another place he has it^w. *Si cui mulieri a pessariis non admodum vehementibus dolores ad articulos pervenerint, & dentium stridor detinuerit, tenebrosa vertigine laboraverit & oscitaverit, huic concipiendi major spes adest, quam cui nihil horum contingat.* “ If, after the trial of pessaries, “ not extremely violent, upon any woman, pains shall “ come into the joints; if her teeth shall chatter, or “ she is seized with a blind giddiness and yawning; “ there are more hopes of her conceiving, than of one “ to whom none of these things happen.” Nor are these signs, which women perceive at the very time of conception, the only indications of pregnancy; for there are several others to be observed, which generally continue much longer: for thus *Hippocrates* affirms, that^x *prægnantem mulierem, si non alio, hocce cognosces: oculi ei contracti & magis cavi cernuntur, & oculorum candidum albedinis naturam non habet, sed lividi-
dius apparet. Quæ utero gerunt, in facie epbelidem ha-*

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bent,

“ De carnibus, cap. 8. Charter. Tom. V. pag. 308.

^w De infœcundis, cap. 6. Charter. Tom. VII. pag. 846.

^x Ibid.

bent, & ubi concipere ceperunt, vinum odio habent, cibos averfantur, cardiogmo vexantur, ac salivant. “ You may know when a woman is pregnant, were it by no other signs than these: her eyes are observed to be more sunk and hollow, and their whites appear rather dusky and livid. Those who are with child have freckles in their face, and when they have begun to conceive, they have an aversion to wine, and loathing at all sorts of meat: they are besides troubled with heart-burn and excessive spitting.” Many other signs sometimes appear in pregnant women, and are different in different people: the *nausea*, however, and loathing of food, are the most frequently to be observed; and *Hippocrates* seems to draw from thence his chief indication of pregnancy, when he says, *Si mulieri purgationes non prodeant, neque horrore, neque febre, succedente, ciborum fastidia (nausea) ipsi accidant, hanc gravidam esse, ratione dicito*, “ If a woman’s purgations stop without shivering, or fever succeeding, and she is taken with loathing and *nausea*, this woman you may with good reason pronounce to be with child.” For as such a loathing may arise, in women who are not pregnant, from bad humours lodging in the stomach, or neighbouring intestines; therefore *Hippocrates* very sensibly adds, “ if neither shivering or fever succeeds,” as in this case they generally used to do, unless this foul viscid matter had first been expelled by a vomit, or evacuation of the belly.

In some pregnant women this loathing is universal, insomuch that they have an aversion to every kind of eatable whatsoever: in many, it happens that they have an abhorrence to this or that particular food, whilst all other they bear very well; and others, on the contrary, shall long earnestly after some particular meats and drinks, about which they were formerly very indifferent. I have known many married

✓ Aphor. 61. sect. 5. Charter. Tom. IX. pag. 232.

married ladies, who, from this sign alone, were very well assured when they were with child, though no other symptom of pregnancy had as yet appeared. Sometimes women, when breeding, are tormented with grievous tooth-aches: in others I have observed the most violent pain in the ear, and frequently in one side of the head; to which they were seldom or never subject before their being with child. The number and diversity of such symptoms, as even happen in the very beginning of pregnancy, are vastly great; they are to be seen in the works of those who have wrote concerning midwifery, and the diseases of women, *Mauriceau* * and others: for it would be rather tedious, than useful, to enumerate all of them particularly. It is sufficient to have observed, that even by pregnancy itself the functions in a female body may be considerably hurt and disordered.

Now these same disorders of the functions are all reckoned as signs of pregnancy. It is to be remembered, however, that here a physician ought to be exceeding cautious how he declares his opinion with regard to pregnancy, and never should either affirm or deny it, but from such indications as are the most certain, and beyond all doubt: as, for example, in the case where the motion of the child in the *uterus*, by laying one's hand upon the belly, shall be felt most distinctly; for many times the most skilful have been deceived. There is no circumstance where a physician's reputation runs so great a risk, as when he is employed to determine concerning pregnancy: if he is not exceeding cautious, there are every where a number of frauds, a number of insidious, cunning tricks, by which he may be easily imposed upon: unhappy wretches, who are kept in prison under conviction of their crimes, being afraid of death, frequently pretend to be with child;

B b 3 and

^z *Traité des malad. des femm. grosses, Tom. I. pag. 67, &c. seq.*

and the judges have recourse to a physician in order to determine whether they are really so or not. Should there remain the least doubt in this case, a prudent physician will advise the execution to be delayed, lest perhaps the innocent young one perish with the guilty mother. This, however, has several times happened, even although surgeons and midwives, after examination, have declared the pregnancy false and feigned, as medical histories shew. Instances of such unhappy mistakes are also to be found in *Mauriceau* ^a.

Women in dropries too, sometimes contrary to all expectation, are found to be with child; nor can the strong cathartics and emetics, so often serviceable in those diseases, be here with safety administered, without danger of abortion. Formerly, when treating of the dropy, we took notice of several such cases. *Mauriceau* ^b had occasion to see a surgeon's wife, who for nine years had an *ascitis* upon her, of such a size, as she looked, as one might have judged from the swelling of the belly, to have contained above thirty pints of water; yet, nevertheless, during the time of this distemper she brought forth four children, all alive and healthy. He assures us, likewise, that when he assisted her in the last delivery, the belly went no more down than if only the bulk of a hen's egg had come away; whence we may easily imagine the monstrous size of the tumour.

I happened myself to have the care of an unmarried woman, who, by her fly pretensions to great sanctity, was taken by all to be a virgin of the most uncorrupted chastity. For seven months from the time she had applied to me for advice, she was sure enough afflicted with a very strong degree of the *ascitis*, or dropy in the belly; nor could I have, from any sign apparent, the least suspicion of her being with child. By means of smart hydragogue purges her disorder

^a *Traité des malad. des femmes grosses*, Tom. I. pag. 71.

^b *Ibid.* 73.

disorder was indeed successfully cured; but she herself took notice to me, that as she sat easing herself in the little house, something dropped out from the *pudenda*. Inquiring immediately into the affair, an abortion was found, which appeared to be about three months old: upon this she acknowledged herself guilty of fornication, but had no great difficulty in persuading me, that she knew nothing of her being with child, as her belly began to swell three or four months before she had conceived.

But very often it happens, that women, when they are clandestinely pregnant, attempt to impose upon physicians, by pretending to have a dropfy, with the hopes of destroying the *fetus*, by taking the strong powerful medicines given in those cases. Sometimes under pretence of being very ill of an obstruction of their *menfes*, they eagerly ask after the strongest emmenagogues. In these one ought to be exceedingly cautious. As to the examination of a midwife, whether the orifice of the *uterus* is close shut up, the anterior part of the lower belly just above the *pubis* is swelled, or the breasts begin to look full, they can easily elude all this, by solemnly affirming, and taking every thing sacred to witness, that their virginity is untouched; nay, I have known very worthy physicians who have given the highest offence, in some wealthy and fashionable families, when they seemed to be in the least suspicious of such a thing. My way, in a case of this kind, is to administer only innocent things with great solemnity and form, giving no sign whatever of my suspicion. By this means I hinder, perhaps, other physicians from being deceived; and while they think they are deceiving me, the time passes, and the causes of my just suspicions grow every day more evident; for every one who has wrote concerning the signs of pregnancy, even though they have been long eminent in the practice of midwifery, acknowledge with one consent, that the signs of pregnancy,

especially in the first months of conception, are pretty uncertain. *Avenzoar*, a famous physician among the Arabians, confesses he was deceived in the case of his own wife^c.

Sometimes also it happens, that women of a more advanced age, and who approach to that time of life when the menstrual flux begins to cease, take for granted they are with child, as they have experienced the same uneasy symptoms usually attending pregnancy, and imagined also, that they have felt, at the usual time, the motion of the child within their belly: whence all things have been prepared accordingly for their future delivery. *Sydenham*^d several times had observed this, and warns all physicians to be carefully attentive in distinguishing such swellings of the *abdomen* from the dropsy, nor rashly pronounce it a pregnancy, even although the breasts should appear turgid, and pour out some milk, and the testimony of the midwife should declare the woman to be with child, and that the motion of the *fœtus* had been clearly perceived: for he remarks, *tandem venter, pari quo increverat, gradu sensim detumesceat, sicut vanam eluserit*, “that the belly at length
“ goes down, in the same gradual way as it increased,
“ and puts an end to all their vain hopes.” This swelling of the belly he ascribes to flatulency, because such a tumour, *viduas ut plurimum exerceat, vel etiam mulieres, quæ non nisi provectiores ætate nupserant*,
“ for the most part, is familiar to widows, or even to
“ women who have been of a pretty advanced age
“ before they married.”

I had occasion to see this happen to a lady of distinction, the mother of fourteen children, who, for eight years, had ceased to conceive, and now firmly believed herself to be with child, having again felt all the uneasy symptoms which she had experienced
so

^c *Traité des malad. des femmes grosses, Tom. I. pag. 73.*
^d *Traçtat. de hydrop. pag. 611.*

so many times before: nay, she was highly offended at all who dared to entertain the least doubt of it. Her belly, gradually increasing for five months, went afterwards down in the same gradual way, and she lived several years after in very good health: she was so much ashamed, however, of her having been thus deceived, that, afraid of being laughed at by all her acquaintance, she kept the house for a whole year together.

I likewise saw another lady, who, at five and twenty years of age, had born a son, and, after having continued barren for the entire space of twenty years, was delivered of a second son, in the forty-sixth year of her age, notwithstanding many imagined at the time, that all her hopes of being with child would prove to be fruitless at last. Hence it appears what great caution is necessary in determining positively concerning pregnancy; for instances of this kind happen not only among the women at an advanced time of life, but also among the younger sort. *Deusingius*, a celebrated physician at Groningen, about the middle of the last century, an author very keen in medical controversy, treating of these cases, in a letter to *Thomas Bartholine*, says^e, *Similem juvenulam ante biennium hic ipse sub cura mea habui, quæ omnia ad partum jam imminentem, ut putabat ipsa, pararat; at cujus spes omnis in flatus evanuit.* “Two years ago I had
 “ a young woman, in the like condition, here
 “ under my own care, who had prepared every
 “ thing for her delivery, which, as she thought
 “ herself, was just at hand: her hopes however all
 “ vanished into air.” Several other instances of the same nature are frequently to be met with in authors of the best credit.

^e Thom. Barthol. epistol. med. cen tur. IV. pag. 132, 133.

S E C T. MCCXCIV.

SOME of which arise from the menstrual blood being hindered to separate, because of the closeness of the *uterus*; and the *fœtus*, at the same time, not being as yet able to take up the superfluous blood designed for its growth and nourishment.

In a woman not with child the menstrual blood is excreted at a certain stated period, as was before observed in the preceding chapter: but when a woman becomes pregnant, her *menstrua* cease, and the principal sign of pregnancy is from thence deduced. But seeing, after the *mensēs* do cease, the uterine vessels are again gradually distended and filled, that is, to be ready for another period, *Hippocrates*^f therefore believed, that, when the vessels were in that state of plenitude, a woman could hardly conceive. *Quare si eo sanguine vacuetur mulier, in ventre concipit, si vero eo plena fuerit, minime; uteris enim & venis sanguine vacuis, mulieres in se fœtus concipiunt; hæ namque mulieres post menstruam purgationem utero concipiunt.* “Wherefore, says he, “if a woman is clear of that blood, (that is, the menstrual) her womb will conceive; but not by any means if she shall have much of it upon her; for it is when the *uterus* and veins are emptiest of blood that women most readily become pregnant; for women in this state conceive immediately after their menstrual purgation.” However, altho’ naturally the *menstrua* cease in a woman with child, yet with some it happens that during the first months of pregnancy they shall still continue to flow, without injury to

^f De natur. pueri, cap. 3. Charter. Tom. V. pag. 313.

to the *fetus*, but for the most part in a smaller quantity.

We observed before, that in some women the menstrual blood not only came from the cavity of the *uterus*, but also frequently proceeded from the vessels about the *vagina*. Nay, I myself have seen a good many women, who, whilst their *menstrua* have come away at the usual time, though in little quantity, have yet assured me of their being with child, and a month gone: and the time of their delivery exactly answered to this computation.

Neither does it seem altogether impossible, that the menstrual blood should find its way, before the *embryo* inclosed in all its membranes be on all sides properly united to the *uterus*; especially if the orifice of the *uterus* shall not be exactly closed up: but it is at the same time evident in this case, that the *embryo*, already conceived, may very readily be carried away along with the blood which goes out, and so all hopes of pregnancy for that time taken away. Hence, unless there is a proper resistance in the vessels opening into the internal surface of the *uterus* when a woman has conceived, so as to allow no more blood to pass that way, the little *embryo*, not as yet of size to fill the cavity of the womb, may be washed off, if the orifice of the *uterus* gives way; or the extravasated blood, watering it on all sides, and ready to corrupt by stagnating, may hinder its necessary accretion to the *uterus*, and thus growing more acrid, may in a short time destroy this tender rudiment of a human creature.

We learn, from undoubted observations, that embryos have been conceived, and have grown to their proper magnitude in the *ovaria*, and Fallopian tubes, as we shall shew more fully afterward. May not the *menstrua* in this case, when the cavity of the *uterus* is free, continue to flow all the whole time of this unhappy pregnancy?

All the *phænomena* seem, at least, to declare, that the *uterus* in the time of conception is constricted, the orifice is shut up, and the *menstrua* do not return. From thence *Hippocrates* determined his signs of conception begun *. *Quod si mulier se genituram concepisse noverit, primo tempore ne virum adeat, sed quiescat. Noscet autem, si vir emisisse se dixeret, mulier vere propter siccitatem ignoret.* “For if a woman would know “ when she is with child, in the beginning let her “ not converse with her husband, but abstain a little. “ She will know, however, if the husband says he “ has emitted, while she herself shall not be sensible “ on account of her dryness.” For he took a retention, at least for some little time, of the seed thrown into the cavity of the *uterus*, to be absolutely necessary to conception; whence he adds what follows : *Quod si rursus eodem die uterus genituram reddiderit, humidus erit, Et si humidus fuerit, rursus cum viro misceatur, quoad concipiat.* “But, if the *uterus*, in the same day, shall “ return the seed, she will be in a humid state; “ and if so, let her again mingle in the embraces of “ her husband until she conceives.” But after that a woman has conceived, the mouth of the womb is entirely shut up, as *Hippocrates* ^h observes : *Qui utero gerunt, iis os uteri connivet* : “In those who are with “ child the orifice of the *uterus* is closely contracted.” *Galen* ⁱ, in his commentary upon this aphorism, looks upon this shutting up of the *uterus* as one of the most certain signs of pregnancy, when the midwife can reach it with her finger; for in the beginning of conception it sometimes lies higher up in the *vagina*. In women, who have never had children before, the orifice of the *uterus* shuts up entirely; but not so exactly in those who have already been accustomed to child-bearing. Nor does *Galen* ^k remark

* De infœcundis, cap. 9. Charter. Tom. VII. pag. 849.

^h Sect. V. aphor. 51. Charter. Tom. IX. pag. 224.

ⁱ Ibidem, pag. 225.

^k Ibidem.

remark the shutting of the *os uteri* only, but thus he has it: *Nam ubi primum uterus intra se semen concepit, universam capacitatem suam contrahit, osque claudit:* “For the *uterus*, as soon as it has conceived the seed within its cavity, contracts itself all over, and shuts up the orifice.” But seeing the orifice of the *uterus* may happen to be diseased, inflamed for instance, or chirrous, it is therefore requisite, in order to draw any sure sign of pregnancy from thence, that the *os uteri* not only be shut, but likewise feel soft; whence *Hippocrates* in another aphorism says¹, *Quibus os uteri durum est, his os uteri connivere necesse est.* “In these, whose orifice of the *uterus* feels hard, the *os uteri* must necessarily be quite closed up.” Wherefore *Galen* thinks, that this aphorism should follow immediately after the former one.

But physicians, upon reflecting that in women with child, the blood, which was in use to go out every month by the *uterus*, must be retained, and that, in the beginning of pregnancy, the *embryo* being so small could not appropriate all that was retained, for its own particular use; hence they imagined, not without reason, that during the first months a *plethora* might very readily be apprehended, to which they attributed all these uneasy symptoms observed to affect pregnant women, and which we shall afterwards more particularly consider. In the chapter foregoing it was shewn, from abundance of proofs, that a far less quantity of blood was secreted by means of the *menstrua*, in wholesome vigorous women, than indeed was usually thought.

Another thing, however, deserves our particular attention, which is, that this retained blood in pregnant women is not so much intended for the use of the *embryo* itself, as of the *uterus*; and that from this uterine blood the finer humours are indeed separated for the use of the *embryo*, but no red blood comes
near

¹ Ibid. aphor. 51. pag. 228.

near it during the first weeks of conception. I have had occasion to examine several of the smallest embryos excluded together with the membranes and *placenta*; nor could I discover any red blood, either in the little body of the *embryo* itself, or in the membranes, or in the *placenta*, which in the beginning, every one knows, covers the whole surface of the *chorion*. But the *uterus*, being entirely vascular, is gradually distended so that its cavity, so small in women not with child shall, by degrees, be so dilated, as to be able to contain the *fœtus*, with its secundines and waters collected within the membranes. But seeing the substance of the *uterus* in women not with child was found so compact and fleshy, and the cavity so very small many believed from this that the *uterus* grew thinner according as it was distended, and that the thickness of its substance diminished in the same proportion as the cavity enlarged. This was *Galen's* opinion^m, where he is treating of the difference of the *uterus* according to the diversity of age: *Rursus igitur in principio conceptus crassus, cum prope tempus pariendi accedit magnus quidem sed tenuis; crassitudo enim longitudinem extensa absumitur in reliquo vero intercedente tempore, pro ratione magnitudinis crassitiem habet.* “Wherefore it is in the beginning of conception pretty thick; and again when the time of delivery draws near, it is large indeed, but thin; for by being stretched out to such a length, the thickness is diminished during the rest of the time; therefore its thickness will be in proportion to the largeness.” From many proofs we could shew, if it was necessary, that the antient physicians had rather seen and examined the *uterus* of the larger sort of animals, than that of the human, and had applied all those things which they observed in brutes to females of the human species. Thus the division of the cavity of the *uterus* in right and left, which takes place in the forked *uter*

^m De uteri dissect. cap. 8. Charter. Tom. IV. pag. 280.

of other animals, is very unjustly ascribed to the human; whence all those predictions, concerning the sex of the *fetus*, when they imagined that the males were placed in the right and the females in the left, must of course fall to the ground. Besides, the *uteri* of brutes are membranous and very thin, so far that the *fetus*, with all its membranes entire, contained within, even when the *uteri* are untouched, may be clearly seen through them: the human womb is quite of another consistence.

Mauriceau ^a obstinately defended this opinion of the ancients, and particularly *Galen's*, concerning the thinness of the gravid *uterus*, and endeavours to confirm it by several authorities: he was shocked to think that very eminent anatomists, and many others, should imagine that a gravid *uterus*, by a kind of miracle in nature, the more it was distended should increase the more in thickness: nay, he appeals to the ocular inspection of those who maintained so absurd an opinion. He would have the same thing obtain in the *uterus* which is observed to take place in the bladder, that, when empty, appears thick, but thin and membranous when distended with urine: he allows, indeed, that in the bodies of women who die soon after delivery, the *uterus* is near the breadth of two fingers in thickness; but this he attributes to the contraction of the *uterus* when empty: nor does he deny the thickness of the *uterus* found in women who die without being delivered; but insists on its being preternatural, and occasioned by inflammation, and from the afflux of humours after the long and fruitless pains suffered in labour.

Whence he concludes, that the thickness of the *uterus* cannot be demonstrated as natural, unless in the body of a woman who died, near her time of delivery, with a full *uterus*, without any morbid symptom whatever. But seeing such a case rarely happens,

^a *Traité des femmes grosses*, Tom. I. pag. 20, & seq.

happens, he desires, in the mean time, that an impregnated sheep's *uterus* may be inspected, which manifestly appears both membranous and thin.

In this we see a deplorable instance, how the best of men, passionately intent on defending a pre-conceived opinion, cannot sometimes be brought to credit their own eyes: but this opinion is very judiciously refuted by a celebrated author in midwifery°. What *Mauriceau* besides desired to see, in order to be convinced of the thickness of a gravid *uterus*, by chance fell under the inspection of the celebrated *Littre*†, who had an opportunity to observe the substance of the *uterus*, about eight lines thick, in the body of a woman, who, on the eighth month of her pregnancy, happened to die suddenly by a fall. The like thickness of the *uterus* was observed by *Mery*‡, in the body of a woman who died four hours after delivery; from which it is plain, that the thickness appearing in an empty *uterus* is not owing to its contraction, as *Mauriceau* would maintain; for a full *uterus* exhibits the same thickness of substance. But as *Daventer*⁴ very ingeniously remarks, the thickness of the *uterus* is one cause, which prevents the *fundus* from being so easily inverted after delivery, and by going out of the capacious orifice of the *uterus*, occasioning a troublesome *prolapsus*, especially in bringing away the *placenta*; for if the *uterus* was thin and membranous, such a *prolapsus* could hardly be prevented. But *Daventer*, who was so long a very eminent practitioner in the art, declares that this very seldom happens; and then only, *si scilicet insigniter fuerit tenuis, tunc quidem circa manum complicatur instar lintei madidi, neque tam cito tum facilisque contractio est; quod mihi non arridet; quin potius mallet eum consuetam*

° *Daventer novum lumen*, &c. cap. 8. pag. 29. & seq.

† *Acad. des scienc.* 1701. *Mem.* pag. 385.

‡ *Ibid.* 1706. *Histor.* pag. 27.

⁴ *Novum lumen*, &c. cap. 23. pag. 30.

suetam servare formam, & statim a partu rite contrahi, & circa manum nondum retractam claudi, quod multa pauciora symptomata tunc extimescenda sint, “ when, for
 “ instance, it happens to be remarkably thin; for in
 “ that case, indeed, it is folded round the hand like
 “ wet linen cloth; nor does it then so quickly, or
 “ so easily contract; which is a circumstance I
 “ do not like, but would much rather have it to
 “ keep its usual shape, and immediately after delivery
 “ to contract rightly, and to close upon the hand
 “ before it be retracted; for in this case a far less
 “ number of inconvenient and troublesome symp-
 “ toms are then to be apprehended.” But as to this
 flaccidity of the *uterus*, and the inconveniences from
 thence arising, we shall afterwards speak more fully,
 when we come to the diseases of child-bearing.

As it often happens, when men of science and learning warmly espouse different opinions, some have maintained that the *uterus* grows thinner when distended; others, that it is rendered much thicker than ever. Sure enough, in virgins, and women who never have had children, the *uterus* is of a pretty solid and firm consistence, equal in thickness to the breadth of the little finger, and sometimes even exceeding that measure: hence, if such a *uterus* be impregnated, and towards the time of delivery be so very much distended, and yet shall retain its former thickness, there must certainly be a very considerable accession of real matter, to enable the cavity to be so much enlarged, without diminution to the thickness of its sides. The ingenious *Noortwyck**, with whom I have the happiness to be intimately connected by friendship, affinity, and mutual intercourse, in the same sort of studies, having minutely considered all those particulars, is of opinion, that for the most part, or at least very frequently, it retains its former thickness. The gravid *uterus*, which he has described so accurately, in his
 VOL. XIII. C c account

* *Noortwyck uteri human. gravid. anat. & histor. pag. 111.*

account of it; and of which he has given a farther demonstration by a curious engraving^t, performed by a skilful artist, from the *uterus* itself suspended in liquor, appears not much to exceed the natural thickness of the *uterus* before impregnation; whence he very justly thinks, that in women with child, the substance of the *uterus* may sometimes increase, sometimes remain the same, and, if it sometimes chance to be extenuated, must be considered as rare and extraordinary case. But seeing it is past all manner of doubt, and so well expressed in that most beautiful plate, that the uterine vessels do not all run in the same plane, but by various interstitial divisions, between the lamellated substance of the *uterus*; and that these vessels, during the time of pregnancy, are remarkably dilated, and replete with blood; it is very evident that an attenuation of the *uterus*, at this time, cannot, according to nature, take place, but, whenever it so happened, must have always been owing to something unnatural and morbid. At the same time it is plain, that the greater the quantity of blood is, with which the uterine vessels shall be distended, and of course more dilated, the much more will the substance of the *uterus* be increased as to thickness; whence we may see a reason, why it is of a different thickness in different subjects. Of what capacity these vessels may be found, and how large the sinuses of the *uterus* may be when filled with blood, and communicating with the *chorion* and *placenta*, are to be seen in the same author^u, who has wrote every thing in relation to the gravid *uterus* with the strictest regard to truth, and has affirmed nothing which he had not clearly demonstrated before-hand, both to myself and others.

Upon looking into the fine gravings of the gravid *uterus*, published afterwards by the celebrated *Albinus*, to whom our profession is so much obliged, it will

^t Noortwyck *uteri humani, gravidi, anat. & histor.* pag. 205.

^u *Ibid.* pag. 10.

in like manner, be seen how large the vessels are, which fill the substance of the *uterus* during pregnancy; whence *De Graaf*^w compared the *uterus*, in women big with child, to a sponge filled with blood, and was astonished to consider how the same, after delivery, should so contract, as to return in the space of sixteen days to its former magnitude; the blood, which distended the vessels of the *uterus* in time of pregnancy, going off by the flowing of the *lochia*.

In women, who had died in child-bed after delivery, he found these vessels still very large; *dum per siphonem liquorem in arterias hypogastricas, aut spermaticas, infunderet; qui non minus, quam flatus, in uteri capacitatem erumpebat*; “for, upon throwing in any
“liquor, by means of a syringe, into the hypogastric or spermatic arteries, it quickly filled, like a
“blast of air, the whole capacity of the *uterus*.”

From all which it is very evident, that the menstrual blood, which in women with child, according to the laws of nature, is retained within the body, serves not only for the growth of the *fetus*, but is also necessary for distending, and filling at the same time, the vessels of the *uterus*. This observation is of no inconsiderable importance, as we shall afterwards shew, in the management of disorders incident to women with child.

How excellently well does this correspond to the doctrine of *Hippocrates*^x! *Ubi enim mulier utero gerit, paulatim a toto corpore sanguis in utero defertur, & in orbem id, quod in utero est, circumstans, ipsum auget*. “For when a woman, says he, is with child, the
“blood is gradually brought from every place of
“the body to the *uterus*; and this, which is collected in a circle, as it were, all about the *uterus*,
“causes it to increase.” But in another place, where he is explaining why a woman feels no inconvenience

C c 2 from

^w De mulierum organis, cap. 8. pag. 104, 105.

^x De mulier. morb. Lib. I. cap. 23. Charter. Tom. VII. pag. 744.

from the want of her *menstrua* during her pregnancy he says *⁊, quod sanguis, singulis mensibus exire solitus cumulate, non agitur, sed sensim paulatimque quotidie in uteros sine dolore secedat; ex quo augetur, quod intra in uteris continetur. Singulis autem diebus, ⁊ non semper per mensem idcirco defertur, quod genitura, quæ utero continetur, semper aliquid e corpore, pro virium ratione trahit, ad eundemque modum etiam spiratio habet. At primo quidem parva est spiratio, ⁊ paucus sanguis ex matre fertur; quum vero amplior fit spiratio, plus quodque sanguinis attrahit, ⁊ majore copia in uteros descendit*: “that the blood, which used to go out every
 “ month, in a certain accumulated quantity, is put
 “ in no hurry, but unperceived and gradually, without
 “ out pain, retires within the substance of the *uterus*
 “ from whence, that which is contained within receives
 “ a gradual increase. But here it is carried every day
 “ and not every month, for this reason, that the conception contained within the *uterus* may always draw
 “ something from the body, in proportion to its
 “ strength, and the breathing goes on after the same
 “ manner. As at first the breath of life is indeed but
 “ very little, so there is little blood carried from the
 “ mother; but when there is a more ample degree
 “ of breathing, it also takes up more blood, which
 “ then comes to the *uterus* in greater quantity.”

The human *ovum*, therefore, is not only contiguous every where to the hollow surface of the *uterus*, but being also intimately joined by accretion is perpetually cherished by the constant warmth of the red blood, plentifully contained in the substance of the surrounding womb; and thus an incubation, or hatching, goes on within the substance of a woman's body, which, in oviparous animals, is performed without their bodies. Whence we see what admirable uses the blood is assigned, which was before accustomed to go out every month, but now retained within the uterine vessels, contributes to form

and distend them by a gentle and gradual dilatation. Harvey^z ascribes to the red blood the first part of the formation and growth of the beginning *embryo*: nay, he maintains it to exist even before the heart or vessels, and that with it life itself begins at first coming into the world, and is last of all terminated by it, when the period of life is about to end. *Inde spiritus vitalis, calorque natus cæteris omnibus advenit; in quo medicorum callidum innatum, sive implantatum, primo emicat, & lar familiaris, sive focus perennis, hospitatur; unde perpetuo in universum corpus, singulasque ejus partes, vita promanat, nutritio incrementum, auxilium & solamen proveniunt, &c. In quo calor primo (tanquam in fonte) & præcipue abundat, vigetque, & a quo reliquæ omnes toties corporis partes calore influente foventur, & vitam obtinent. Quippe calor sanguinem comitatus, totum corpus irrigat, fovet, & conservat.* “ From thence
 “ first comes the vital spirit, and native heat, before
 “ every thing else; in which is perceived the first
 “ spark of the *callidum innatum*, or that native, im-
 “ planted, or in-born heat of physicians; and where
 “ that household familiar deity, or that perpetual fire,
 “ takes up its residence; whence life continually
 “ imparts its influence to the whole body, and to
 “ every part in particular, and from whence pro-
 “ ceeds whatever serves towards its growth, nou-
 “ rishment, assistance, and comfort, &c. in which
 “ heat principally abounds, as in its original source,
 “ and continues to increase, and from which all the
 “ other parts of the whole body, by its kindly in-
 “ fluence, are cherished, and receive life; for the
 “ heat, accompanying the blood, moistens, cherishes,
 “ and preserves the whole body.”

It is well known, that in a fecundated egg the first rudiments of the chick may remain a long time concealed, without any signs of life or increase. Let a due degree of heat, whether by the sitting of the

C c 3

hen,

^z De generat. animal. exercitat. 51. pag. 199, & seq.

hen, or any other means, be applied, and immediately there follow motion, life, and gradual increase, and in so quick a progression indeed, that in the space of twenty days, the most minute *molecula*, before, eluding the acuteſt ſenſe, ſhall now exhibit to view a chicken in full perfection, which having, by its own native force, broken the ſhell, where it had been imprifoned, runs about at perfect liberty. That plentiful circumfuſion of warm blood, continued through the uterine veſſels, ſeems in like manner to be of no inconfiderable aſſiſtance towards the growth of the human *embryo*.

S E C T. MCCXCV.

OTH^R diſorders ariſe from the bulk itſelf, and motion of the *fœtus*, and of the ſecundines and waters, all doing violence to theſe parts, which are ſo very ſenſible.

A gravid *uterus* pushes up its bottom into the *abdomen*, preſſes upon the reſt of the *viſcera*, removes them from their natural ſituation, and ſo much the more, in proportion to the time of continuance there. During the firſt two or three months of pregnancy, the *uterus* can as yet occasion little uneaſineſs from the increaſe of its bulk, but from the month following, to the time of delivery, it may be the cauſe of many inconveniences. In the body of a woman who, being ſix months gone with child, fell into the water, and was ſuffocated, the bottom of the *uterus* was found touching the ſtomach^a; but between the anterior part of the ſwelled *uterus* and the *peritonæum* nothing, either of the inteſtines, or *omentum*, was to be in the leaſt obſerved; for all theſe *viſcera* were found to have been moved aſide; whence the ſurface

^a Dnys over het. ampt. der. vroed. meesters, &c. pag. 54.

of the *uterus* anteriorly was perfectly contiguous to the *peritonæum*. Hence we see the reason why the motion of the *fœtus*, in the *uterus*, by laying the hand upon the *abdomen*, may be so easily perceived. But the posterior part of the *uterus* lies also upon the *os sacrum* and *vertebra* of the loins, without any of the *viscera* interposing^b. The stomach has also been found lying above the bottom of the *uterus*, in other bodies of women, who died pregnant, and the *omentum*, together with a considerable part of the intestines, pushed up and compressed back towards the *diaphragma*. The like extraordinary and surprising changes of situation, with regard to the *viscera*, may be seen in many other authors^c. It is therefore evident, that sometimes there is considerable violence done to the *viscera*, when, by the swelling of the *uterus*, they are moved aside, so as the intestines shall be every where compressed; the aliment being thus hindered in their passage through the thinner guts, while the *fæces* are retained and accumulated in the thicker. From the same cause, the passage of the bile into the *duodenum* is rendered more difficult; whence it is, that slight touches of the jaundice are so often observed to happen in women with child, which cease, for the most part, after delivery, unless the bile, retained in the gall-bladder, has acquired a thicker consistence, or formed into calculous concretions, which, on account of the narrowness of the passage, cannot easily get out by the ducts. This, however, is seldom the case, excepting in such as have had already a tendency to these disorders, before they ever were pregnant; for the jaundice is but slight, for the most part, which is observed in women with child. In the time of pregnancy, from this diversity of compression upon the *viscera*, many are the symptoms,

C c 4

indeed,

^b Ibid. pag. 56, 62.^c Levret Part des accouchem. &c. pag. 57.

indeed, which may arise. Might not *Hippocrates* have had this in view, when he says ^d, *Si nosse velis, an mulier conceperit, dormituræ aquam mulsam potui dato: quod si tormina habuerit circa ventrem, concepit, sin minus non concepit?* “ If you would know when a
 “ woman is pregnant, give her some water and honey
 “ to drink, as she lies down to rest: but if she shall
 “ have gripes in her belly, she has certainly con-
 “ ceived; if otherwise, not?” *Galen* ^e, in his commen-
 tary on this place, remarks that *Hippocrates* gave here
 crude water and honey, because of its flatulency be-
 ing necessary in this *diagnosis*. He seems, however,
 to have tried this *diagnosis* in the first months after
 conception, because, about the fourth month, sooner
 or later, a woman with child usually feels the motion
 of the *fetus* ^f, which is reckoned a much surer sign
 of pregnancy than the gripes, felt after drinking of
 water and honey. *Galen*, however, adds ^g very perti-
 nently, that those gripes happened to women, who
 had conceived, (διὰ τὴν ἀπὸ τῆς μήτρας στενοχωρίαν) on
 account of the narrowness of the places, caused by
 the swelling of the *uterus*.

From this cause, *Mauriceau* ^h and others have deduced the adstricted belly, common to women with child: but from this also we may understand, why some women, towards the end of their pregnancy, are molested with a troublesome reaching, particularly those whose *uterus* goes higher up than usual, and, pressing upon the stomach, either irritates in this manner, or at least hinders its distension by the aliment. If the *uterus*, according to the example we gave a little above, rising up into the *abdomen* about the sixth month, shall touch the bottom of the
 stomach,

^d Sect. V. aph. 12. Charter. Tom. IX. pag. 219.

^e Ibid. pag. 220.

^f Mauriceau traité des malad. des femmes grosses, Tom. I. pag. 92.

^g In the place just quoted.

^h Tom. I. 124.

stomach, it is easy to conceive, how it may press and straiten the same in the last month of gestation. Such a vomiting, however, we cannot expect to cure, till by delivery the womb is discharged of its contents. The only relief, for the present, is to eat and drink but little at a time, and frequently, just so much as may nourish them, without distending the stomachⁱ. If then so many inconveniences can arise from the bulk only of a distended *uterus*, it is plain that these may be very much increased when the *fœtus*, stirring itself violently in the womb, strikes forcibly upon any of the neighbouring *viscera*.

The hopes however are, that the *viscera*, when the *uterus* is once empty, changing their situation, may in a short time again resume their natural place. This, indeed, for the most part happens, though not always. *Caspar Bauhin* ^k, when treating of the *omentum*, has made the following remark : *Nonnullis post partum circa ventris medium collectum remanet, ita ut non leves sæpe dolores perferant* : “ With some, after delivery, it remains
 “ gathered up towards the middle of the belly, so as
 “ frequently to occasion no inconsiderable degrees of
 “ pain.” The *omentum*, in most people, is of a considerable size, lying loose upon the intestines : these it cherishes and keeps warm, moistens and lubricates, while, as it consists of duplicated *lamellæ* sliding upon each other, it easily gives way, and changes situation : for in animals cut open soon after feeding, the *omentum* seems gathered up, as it were, under the stomach, but, when the stomach is empty, goes lower down towards the parts below. Now, from the time the *uterus* gets above the *os pubis*, it raises the intestines and *omentum*, and pushes them gradually to each side. Sometimes, however, the *omentum* seems to be convolved and twisted by this rising of the *uterus* : if then, either from the compression of the womb, or
 from

ⁱ Tom. I. 130.

^k Theat. anatom. Lib. I. pag. 79. cap. 12.

from any other cause whatever, the *omentum* shall become dry, and shrink up, the concretion of its *lamellæ* may be apprehended; nor will it be able, after delivery, to disentangle itself, so as to regain its wonted situation. *Ruysch*¹ several times observed hard tumours, of an oblong shape, remaining in the *abdomen* after delivery, and confesses he was long doubtful what to think of them, till, in the dissection of a dead body, he discovered the cause: for he saw the *omentum duos fere digitos crassum, tres digitos latum, spithamam cum dimidia longum, & in substantiam adipo-carnosam degeneratum, atque insuper schirrosam*, “the *omentum*, which was
 “about two fingers breadth in thickness, three fingers broad, and about a span and a half in length,
 “degenerated into a fattish, fleshy sort of substance,
 “and schirrous withal.” But this bulky mass, as the figure has expressed it, adhered above to the bottom of the stomach, and below, to the *fundus uteri*: it therefore seems very likely, that the *fundus uteri*, when it ascended, had raised the *omentum*, and pressed it to the bottom of the stomach, and firmly attached itself to it, and that after delivery, the *uterus*, contracting and bringing down the attached part of the *omentum*, had produced this oblong tumour in the *abdomen*. *Ruysch* had seen and felt several such tumours in living subjects, some of which were situated cross-ways; others obliquely: he also remarks, *mulieres eos tumores, sine magno, immo aliquando sine ullo, dolore, licet non sine aliquo incommodo, per plures annos gestasse*; “that women have carried these tumours about with them for many years, without any
 “great pain, nay, sometimes without any, though not,
 “however, without some little inconvenience.”

We saw formerly, from numbers of observations, when discoursing of the dropsy, in how surprising a manner the *omentum* might degenerate, and produce the most obstinate and difficult disorders.

When

¹ Observat. anatom. chirurg. centur. observat. 63. pag. 59.

When the *uterus* ascends gradually in a strait direction, the situation of the *viscera* is indeed changed, but gently, and with little force: but when the bottom of the *uterus*, in pregnancy, inclines either to the right or left side, there happens a more unequal pressure, which then may be productive of many disorders. A surprising case of this kind we find among the observations of the celebrated *Litre*^m, where a gravid *uterus*, through a fault in the ligaments, always inclining to the right side, had pressed the liver upwards, against the *diaphragma*, and by changing its situation and form, and straitening the cavity of the breast, had occasioned palpitations of the heart, &c. The first child was of so large a size, that it could not possibly be excluded, but died, and was obliged to be extracted piece-meal out of the body. Afterwards she bore two more infants with very good success; but the *uterus*, during the whole time of pregnancy, always inclined to the right side.

But seeing it appeared, from the observations formerly mentioned, that nothing interposed between a gravid *uterus*, when swelled, and the *vertebræ* of the back, the *aorta descendens*, which goes down along the fore part of these *vertebræ*, may be likewise so pressed, by the incumbent *uterus*, that the blood, driven from the heart, may be obstructed in its passage towards the parts below, and hence the parts above will be filled to a greater degree. But formerly, when treating of the apoplexy, it was remarked, at § 1010. 3, 7. that from a compression of the neighbouring parts, by a pregnant *uterus*, the force and quantity of the blood towards the head might be greatly increased, and so occasion no inconsiderable degree of danger; which also we confirmed from the authority of *Hippocrates* there cited, where he says, *Uterum gerentibus capitis dolores ex sopore & gravitate oborientes mali; fortassis autem & his convulsivum*

vum quid pati contingit, “Head-aches, arising in
 “women with child, attended with slumber and
 “heaviness, are bad: such are also ready to be seized
 “with convulsion.” In the same place it was also
 remarked, that the word τὰς ἐπιφόρους did not mean
 simply pregnant, but that stage nearest the time of de-
 livery; for then, by the great size of the swelled *uterus*,
 there was more danger of a compression of the vessels.

S E C T. MCCXCVI.

ON the first (1296.) seem to depend the
 squeamishness, vomitings, loss of appe-
 tite, or the same entirely depraved; fainting fits,
 vertigoes, violent pains of the stomach, shere-
 bone, groins, kidneys, breasts; also a laziness,
 heaviness, difficulty of breathing, and miscar-
 riage.

In this section are enumerated the principal symp-
 toms which usually attend upon pregnancy; not in-
 deed that all these appear together in every woman
 with child, but a greater or lesser number of them are
 to be met with in different women during their
 pregnancy: all these disorders, however, are usually
 ascribed to the same cause, to wit, to too great a quan-
 tity of blood arising from the retained *menstrua*,
 which the *fetus* cannot as yet consume for the pur-
 poses of its growth or nourishment, as at § 1294,
 was before observed.

But in the same place it was remarked, that the
 quantity of blood, excreted by the *menstrua*, was not
 so great as people commonly imagined, and that a
 considerable part of it was taken in to fill the uterine
 vessels during their enlargement: whence a just
 doubt arises, whether these symptoms, in women
 with child, are entirely owing to a *plethora* alone.

Now a *plethora* has undoubted signs, mentioned at § 106, by which it be may distinguished. Are these to be found, pray, in every pregnant woman, who only suffers perhaps some partial kinds of these symptoms here recounted? Amongst the signs of pregnancy, mentioned at § 1293, were reckoned a more than ordinary contraction and hollowness of the eyes, and a lividness in their whites. These however are not the signs of a *plethora*, for in a *plethora* the eyes rather swell out, and the whites of the eyes look livid and red. In many pregnant women I have observed the visage pale and contracted, whilst they laboured under several other pretty severe symptoms of pregnancy.

Besides, most women are impregnated after the menstrual flux has finished its period: whence your experienced matrons usually calculate the time of delivery, by placing the first of their reckoning fourteen days after the beginning of the last menstrual flux; and the event has generally confirmed this computation to be pretty exact. Now, all this time, there cannot, as yet, any *plethora* take place from retained *menstrua*. I have frequently seen, however, in this very beginning of conception, a squeamishness and vomiting come on. A very handsome girl, I remember, who was married to a vigorous young man, next day after the nuptials was taken with a *nausea* and vomiting, and afterwards had a strange longing for some particular kind of things, could not help being highly offended, when, at a merry entertainment of friends, she was, by all, congratulated on her pregnancy. At the end of nine months however, reckoned exactly from that time, she brought forth a wholesome, stout, and vigorous infant. In another pretty strong woman there came immediately, after conception, a grievous pain into her stomach and back: she grew very fearful and apprehensive, and was forced to lie down perpetually on her bed; was troubled

troubled with constant belching and flatulency; extreme weariness of body; her *sensus* were all benumbed and stupid, and her face pale as a corpse. She remained in this extremely miserable condition till the fifth month of her pregnancy, when she began to vomit, and afterwards, gathering strength, she left her bed, and continued pretty well all the rest of her reckoning. This poor unhappy woman had brought forth several children, and had always to go through the same disagreeable sufferings, notwithstanding the attempts of many very skilful physicians to give her relief. Bleeding, and many other remedies, were tried, but nothing would do.

It may be said, I know, in opposition to this, that these cases are rare, and seldom to be observed: but this, at least, may be concluded from thence, that some certain symptoms, observed during pregnancy, have not always a *plethora* for their cause. Besides, it is very obvious, that women sometimes nauseate, and have an aversion to some particular meats, which formerly they used to like, and take an unusual fancy to others of a very uncommon kind, and as they have experienced the like symptoms before, yet doubtful of their pregnancy, wait with impatience till the next period of their menstrual flux, which, if it does not appear, then they believe themselves to be with child, and date the beginning of their pregnancy from the time when they had first observed these symptoms. Now even in these cases, which surely are by no means rare, a *plethora* cannot be said to cause those symptoms, as it had not appeared; and that maxim of the schools is always universally admitted, that no effect can possibly be prior to its cause. At the very time of impregnation there is a remarkable change of the *uterus*, and parts adjoining to the *uterus*, which relate any way to generation; and this, afterwards, seems rather to be the cause of all those symptoms which usually accompany pregnancy,

nancy, and more especially appears from what has been formerly said concerning that power, by which the consenting or governing principle acts upon all other parts of the body.

Squeamishness, vomiting, loss of appetite.] This is a disorder so common to women conceiving, that most of them bear it with patience, and hardly ever have any recourse for relief; especially, as they have frequently experienced it before, and know, that as their pregnancy goes on, these troublesome complaints gradually wear off, and at length entirely cease; for they very rarely continue beyond the third month. Some indeed, towards the end of their pregnancy, are troubled with *nausea* and vomiting, on account of the *uterus* swelling up so big, and, as hath been mentioned above, touching, in the sixth month, the bottom of the stomach: but here we are considering the *nausea* and vomiting, which begin to appear on the very first days of conceptionⁿ. The same author remarks, that these symptoms are by no means produced from any collection of filthy, depraved humours, lodged in the stomach, and therefore do not require any evacuation, which, in this first stage of pregnancy, especially if they are of the stronger kind, can hardly be administered with safety. See also what has been said on this affair, in the chapter concerning *nausea*, at § 642, N°. 5. It cannot, however, be denied, but that, if these shall continue long to be very troublesome, the functions of the chylopoietic *viscera* may be so injured, as that, by loathing, and having so miserable an aversion to all manner of eating and drinking, a filthy collection of depraved humours may sometimes be lodged in the stomach and first passages, which require to be expelled, especially if unfavoury belchings, a bitter taste in the mouth, or foulness of the tongue, shall confirm these indications.

ⁿ Mauriceau traité des malad. des femm. grosses, Tom. I. pag. 128, 129.

tions. A gentle purge, particularly of rhubarb, used to be in this case of remarkable service^o; for all stronger is with the greatest caution to be avoided. This method has been recommended by all the best authors, who have wrote upon the diseases of pregnant women, agreeable even to the authority of *Hippocrates*, which thus allows, that *p^rægnantes medicamentis purgandæ sunt, si humor turgeat, quadrimestris & ad septimam usque mensem; sed hæc minus: minoribus autem, aut grandioribus, fætibus cavendæ sunt purgationes*, “if the humour should abound to excess, pregnant women may use a purgative medicine, from the fourth month of their pregnancy, until the seventh; but these last hardly at all: but all purgatives are to be avoided, at a later, or earlier period.” It is plain, therefore, that *Hippocrates* has not recommended purging in that *nausea* and vomiting which happen in the first stage of pregnancy, and usually cease about the third month, and sometimes sooner; but only in that case where an abundance of depraved humours prevails: for as, in the first months, there is the greatest danger of abortion, therefore he orders such medicines strictly to be avoided, as also in the last months, lest the gripings, frequently occasioned by purges, should excite the labour-pains, and the *fætus*, not as yet fully ripe, be excluded before its due time. But as, in another place, he has the following remark^o, *Mulieri utero gerenti. si alvus multoties fluat, abortionis periculum est*, “If, in a woman with child, the belly shall be very loose, there is then danger of abortion;” we may therefore conclude that the purgatives he employed were all of the milder sort.

I once had occasion to see a case, where the *nausea* and vomiting returned after the turning of the *fætus*, and when the *uterus* was moving down to the parts below;

^o Mauriceau traité des malad. des femm. grosses, Tom. p. 131.

^p Sect. IV. aphor. 1. Charter. Tom. IX. pag. 130.

^a Sect. V. aphorism. 34. Ibid. pag. 214.

below; which could hardly be attributed to the *fundus* of the *uterus* touching the bottom of the stomach. A little sherry, with some biscuit, gave almost immediate relief; which *Mauriceau* likewise recommends^r, who used sometimes to give a little brandy in similar cases. Should the woman with child be plethoric, or of a warm habit of body, the use of such warm things would not be so safe, until the fulness was a little taken off by opening a vein; however, these rich balsamick wines, administered in small quantity, give presently great relief, agreeable to *Hippocrates*^s, who thought that *meraciores potus ad uteros, & fetus nutritionem, meliores existunt*, “generous sorts of liquor were more kindly to the *uterus*, and better adapted to the nourishment of the *fetus*.”

But when a perpetual *nausea* has afflicted women with child, so as that it was scarcely to be any longer suffered, and which is very often ready to affect the whole nervous system, this I have often very happily composed by a few drops of liquid laudanum. See what has been said at § 644, 5.

Or the same entirely depraved.] As the appetite becomes so variously depraved, it is by the Greeks called *χίονα* or *χίττα*^t, after the magpye, because it has wings of so many different colours, and a great variety in its notes. It is also called *malacia*, or the green sickness, because it is not only observed in women with child, but sometimes also in young virgins. This depraved appetite sometimes has a longing desire after things the most absurd. Thus *Hippocrates*^u has remarked, that women with child sometimes have a particular desire to eat chalk or coal-cinders, and the mark shall appear upon the child's

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head,

^r In the place above cited.

^s De salubr. vict. rat. textu, 24. Charter. Tom. VI. pag. 233.

^t Moschion apud. Spach. pag. 3. N^o. 28.

^u De superfœtatione, cap. 6. Charter. Tom. VII. pag. 863.

head, when brought forth into the world. There are a vast number of instances, of the depraved appetite of pregnant women, to be met with in medical histories, such as their greedily devouring, with great secrecy, the lime from walls, plaster, wool, and the like. Very frequently also it happens, that they are carried with a most eager appetite to certain meats, and eat an amazing quantity. *Tulpius* ^w says, he saw a woman, *imprægnata delectabatur tam impense holecibus salitis, ut ante partum commederit mille & quodringentos; attamen sine ventriculi offensa ullove sanitatis dispendio,* “ who, being with child, was so exceeding fond of
 “ salted herrings, that before her delivery she had eaten
 “ fourteen hundred, and this without any offence
 “ to her stomach, or prejudice to her health.” Dividing this number by her reckoning, it is plain, she must have eaten about five herrings every day: a dish sufficiently relishing indeed, but which the strongest and most vigorous man could hardly bear. But even the child too was affected with the same eagerness of appetite; for *ut cum necdum posset verbis, expetierit tamen ejulatu, halesces,* “ as it could not by
 “ means of words, yet by its crying, it demanded to
 “ be helped with some herrings.” It is every where the custom to let women, who are pregnant, have whatever they desire, if it is not very highly absurd, or absolutely pernicious, be the expence and difficulty ever so great to procure it: whence *Manningham* ^x has laid down this practical axiom, that *si alimenta, quæ apprime appetunt gravidæ, optima & ad nutritionem maxime idonea, non sint, omnino tamen anteponenda sunt illis alimentis, quæ fugiunt & oderunt,* “ notwithstanding the aliments, which pregnant
 “ women very eagerly desired, might not be otherwise
 “ so very proper for nourishment, yet they are by all
 “ means, however, to be preferred to such kinds as
 “ they

^w Observat. medic. Lib. II. cap. 24. pag. 132.

^x Art. obstetric. compend. pag. 65.

they avoid, and have an aversion to." Nor does his violent desire for particular meats and drinks continue through the whole course of pregnancy, as in that woman who devoured so many herrings; but we have frequently seen it go off very soon, and sometimes return again. Thus I knew a lady of the greatest worth, who had never, in the least, been addicted to drinking, for a day or two began to have an eager fancy for wine: being much ashamed, however, she would not ask for more than she usually took: the husband, guessing the affair, cunningly gave her an opportunity of satisfying this eager desire, without the knowledge of any body whatsoever: she has confessed afterwards, that nothing ever was so delightful, and though she drank a pretty large quantity of wine, she never was in the least disordered by it.

[Fainting fits,] Which frequently happen during pregnancy, especially in women of a more tender and delicate make: sometimes too they use to follow after a violent *nausea*, but go off soon, upon application of scented vinegar, fragrant wine, or some gentle aromatic, to the nostrils, and sometimes with the addition of the milder anti-hysterical remedies, of which we shall say more afterwards, at § 1300. Sometimes there is a slight fainting, occasioned from the violent struggling of the child in the womb, as also when they continue too long upon their knees. Besides, by the vast increase of both *uterus* and *fetus*, a great quantity of blood is contained within the substance of the *uterus*, and in the vessels of the *placenta*; and also the turgent *uterus* sometimes presses upon the iliac veins, the arteries, indeed, not so much, as they are firmer; whence there is a great quantity of blood retained in and below the *pelvis*, which does not return to the heart, or at least not all of it; whence the strength of the heart is considerably weakened. But if the situation of the body

shall happen to be altered, by lying down in bed, or any other way whatsoever, the veins are sometime freed from compression, and a great quantity of blood comes rushing to the heart, and for some moments almost overwhelms it: whence arises a palpitation; and a qualm, just as if ready to faint, immediately follows, till this blood shall be more equally distributed again; for then all these symptoms go off.

Vertigoes.] From a *vertigo*, though it is the slightest disorder in the brain, all the more terrible disorders of the head usually begin, and when they are cured, generally it is the last symptom which remains with the patient: frequently it precedes and accompanies a fainting, and most frequently *nausea*, even in persons who were in the very best health a little before; such as those whose bodies are quickly turned round in a circle, or sailing upon the sea, or who look down from any very great height, &c. hence a *vertigo* may arise from very slight causes. A *vertigo* is frequently the consequence of a *plethora*, when the vessels of the brain are swelled and full, which may be cured by emptying the vessels; and this is commonly the cause which is blamed in women with child, which may sometime though not always, be the real one; seeing also the same causes, which produce fainting, *nausea*, and vomiting, bring likewise on a *vertigo*, and therefore require the same method of cure.

Pains in the upper orifice of the stomach.] An acrimonious acid so often produces heart-burn and severe pains in the belly, (see § 63.) from the same cause likewise such symptoms may happen to women with child, if they are much addicted to meats and drink which are either acid, or quickly become so, especially when these cannot be so easily subdued and digested, on account of the first concocting passages being weakened by frequent *nausea*, and therefore in their own nature prevail; whence *Manning*

ham^y makes the following observation: *Mulieres gravidæ, quibus acescere, sive ardorem solet pati, stomachus, ab acidis fructibus immaturis, saccharoque abstinent; vel etiam vinum fugiant; nam vinum, ut alimenta in stomacho acescant efficit, ipsumque est acidum.* “Let women with child, whose stomachs are sour, or who have been used to complain of heart-burns, abstain from all sour unripe fruits, as also from sugar; and let them likewise avoid wine; for wine causes the aliments to sour in the stomach, and is itself of an acid nature.” Earths which absorb acids, as crabs eyes and the like, take off this complaint pretty effectually: Spanish and other balsamic wines, as tokay, &c. do not sour so easily, and therefore may be used in preference to any other. But the most sensible part of all seems to be the upper orifice of the stomach, which, when irritated by acids, or any other sort of acrimony, occasions the most intolerable pains.

We know that when any one has been drinking sour wine, he scarcely feels any uneasiness at the time, till he shall belch, or be jolted in a carriage, so as the contents of the stomach, now become acrid, shall wash the upper orifice, and, as it usually does, occasion a heart-burn. Now, if it is considered, that the *uterus*, when swelled up, presses upon the bottom of the stomach, and sometimes changes its situation, we shall easily see the reason why the heart-burn, as well as any other effect, may be produced from pregnancy. Many observations demonstrate, that very obstinate pains sometimes beset the stomach, when scirrhus tumours, either adhering to it, or bred in its substance, continue to act by pressure, or pulling it down by their enormous weight. I have sometimes seen women, subject to these pains, after the fourth month of pregnancy perfectly easy; but they returned again after delivery. May not the bulk of the *uterus* in swelling have supported these tumours, so as to

D d 3 cause

^y Art. obstetric. compend. pag. 66.

cause less uneasiness to the stomach? it seems not improbable. I cannot, however, be certain, having had no opportunities of inspecting the bodies of any in whom I had observed these particular symptoms.

But may not a similar pain be occasioned, not only from pressure or a change in the situation of the stomach, but also by that consenting principle, by which the *uterus* itself may affect very remote parts of the body, and which, as we observed before, is called the regiminal action, or governing principle? *Hippocrates* seems to give some such a hint^z; for when he is recounting all that happens during pregnancy, and what arises towards the time of delivery, he subjoins, *Toto fere intermedio tempore oris ventriculi dolore subindepremitur, ob ventrem undique completentem fœtum, maxime vero ob uterum.* “The whole intermediate time almost she is oppressed with a pain at the mouth of the stomach, on account of the belly, every where embracing the *fœtus*, but chiefly on account of the *uterus* itself.” At the time of labour, however, when the *uterus* is preparing to discharge its burden, *Hippocrates* remarks^a, that the upper orifice of the stomach is the first place affected, and gives it as a sign of delivery being very near at hand: *Quæ in partu os ventriculi prædoluere paulo post ejiciunt.* “Those, says he, who feel a pain at the mouth of the stomach in time of labour, will soon be delivered.” For he does not speak here of the heart-burn which exists during pregnancy, but that which comes suddenly on in the time of labour pains.

Share-bone, groins and kidneys.] If the change of the situation of all the abdominal *viscera* from the swelling up of the *uterus* be considered, it will not seem strange that various pains should arise from the distension and traction.

^z De mulier, morb. Lib. I. cap. 32. Charter. Tom. VII. pag. 749.

^a Coacar. prænot. No. 547. Charter. Tom. VIII. pag. 884.

traction, or even compression, of certain parts; especially if there should happen a preter-natural concretion of the abdominal *viscera* between themselves, or union to the parts adjacent.

It is very certain that the superior part of the *uterus*, commonly called the *fundus*, in women with child, is most remarkably extended: in the body of a woman, who died in the fifth month of her pregnancy, Noortwyk ^b found what follows: *Supremum uteri laqueare insigniter expansum erat, ita ut tubæ Fallopianæ, quæ in non gravidis naturaliter lateribus summi uteri inseruntur, demissiori longe locohærerent: nempe quarta pars globi supra paralellam earundem insertionem protuberabat.* “The uppermost part of the womb was so remarkably expanded, that the Fallopian tubes, which, in women not with child, are naturally inserted laterally into the upper part of it, had now got down to a much lower situation; for now a fourth part of the globe appeared above the parallel of their insertion.” The same also obtains with regard to what are called the round ligaments, which take their rise from the sides of the *fundus uteri*, where the *tubæ Fallopianæ* are attached to the *uterus*, and go down in a duplicature of the *peritonæum* towards the groins on both sides, then passing out of the *abdomen* run obliquely over the bones of the *pubis*, where they are covered with plenty of fat, and, being divided into a number of smaller, are there inserted near to the *clitoris*, and so entirely disappear ^c. Thus, indeed, they are guarded from being too much distracted; but yet, as the *fundus uteri* rises gradually, they seem to be in proportion elongated; and, in some pregnant women, a troublesome pain arises in that very place above the *pubis*, where these ligaments terminate; but seeing also that they are vascular, and that these

D d 4

vessels

^b Uter. human. gravid. anat. pag. 7, 71.

^c De Graaf. de mulier. organ. pag. 147, 148.

vessels in women with child are observed more full from thence perhaps this pain is produced ^d. This pain, however, is mostly of one side only; and it was the opinion of *Levret*, a celebrated author in midwifery, that these vessels were packed up, as it were, along with these ligaments, for this reason because the *placenta*, when grown to the *uterus*, possesses that place of it from whence the round ligaments take their origin; whence he thought, that if each *fœtus* had its *placenta*, this pain could not take place in both sides, but only in the case of twins.

Such pains I have frequently observed in pregnant women, at these very places, go off in a little time, without leaving any ill effects behind. But there are also other pains of a similar kind, with which women with child are sometimes taken in their thighs and legs, which appear not to depend on this cause. These pains, as *Mauriceau* ^e observes, happen rather about the first weeks of pregnancy; which rest in bed, or bleeding, if necessary, generally removes. It is very obvious however, that all these disorders may be much aggravated by the strong motions of the *fœtus* stirring in the womb. *Hippocrates* ^f, speaking of women near the time of delivery, says, *tum maxime lumbis dolet; nam & lumbi a fœtu percutiuntur*, “that then the loins are very much pained; for even the loins are very much shaken by the stirring of the *fœtus*.”

Breasts.] Formerly, in discoursing on the diseases of virgins, we took notice of that remarkable communication and correspondence carried on between the *uterus* and breasts; among the signs also of pregnancy that of a swelling in the breasts was recounted, which,

^d *Levret l'art des accouch. pag. 33.*

^e *Traité de malad. des femmes gross. Tom. I. pag. 134.*

^f *De mulier. morb. Lib. I. cap. 32. Charter. Tom. VII. pag. 749.*

which, if it is not very hard, and rather feels like a troublesome tension than pain, requires no application by way of cure: for it is held a good sign, and *Hippocrates*, as we shall see afterwards, presaged abortion to pregnant women from their breasts growing suddenly flaccid, and, on the contrary, had the most favourable hopes if they became again firm and turgid. But, as he believed the human *uterus* to have two cavities, of which the right bred and cherished males, and the left females, hence he thought, that according as the right, or left breast, grew flaccid, the sex of the future abortion might be easily known. Gentle friction, fomentation of milk and water mixed with a little Venetian soap, pretty well remove these uneasy complaints, particularly if any thing of a thin milky liquor run from the nipples. *Mauriceau* ² also charges us to leave this to nature: he condemns all discutients, and orders them to beware of pressing the swelled breasts too much by wearing the clothes too tight above them; for from thence he apprehended, not without reason, the greatest mischiefs.

[A laziness, heaviness, and difficulty of breathing.] The uneasy, though charming load, weighs down the whole body, and renders them sometimes so weak, that in the last months of gestation they can hardly move a joint, especially if they have been delicately bred up, and lie at their ease, unactive and lazy, during the whole time of their pregnancy; whilst no such inconvenience happens to the rural mother when she is with child, who

*Instanti cum plena tument quoque viscera partu,
Æquat humum rastris, segetem nascentibus herbis
Liberat, in longos religat sarmenta maniplos,
Et duri patiens ita ruris, amansque laborum est,
Inter ut agrestes operas enixa, marito*

Progeniem

*Progeniem referat, quam non peperisse sed agris
Invenisse putes*^h.

“ When her teeming bowels stretch’d out we see
 “ With ripen’d young that struggles to get free,
 “ Still guides the harrows o’er the furrow’d meads,
 “ Or from the sprouting corn destroys the weeds,
 “ Ties up the tender vines with studious care,
 “ Inured to rural toil and simple fare;
 “ And whilst there’s nought but this her taste can
 “ please,
 “ Amidst her work she bears her young with ease;
 “ So that you’d think the offspring which she yields
 “ Her country spouse, were gather’d in the fields.”

I have known sometimes a whole family in the utmost fear and apprehensions, lest the delivery, on account of the mother’s weakness and inability to move, should not terminate so happily; but when the true labour-pains began to rouse her, all that indolence went off, and her strength, which had been suppressed, returning, a very successful and happy delivery has succeeded; and although all about her were ready to beg something of a warm stimulating cordial might be prescribed to recruit and support her strength, yet I never consented to give any thing of that sort, knowing well it would rather do her harm.

The difficulty of breathing is chiefly observed about the end of gestation, when the belly being so big, the diaphragm has not room to move downwards, and the abdominal muscles are so stretched out as not to be able to give their assistance.

Miscarriage,] Or abortion, so called from happening at an untimely period, is an exclusion of the *fœtus* from the *uterus* before the due time; for, strictly speaking, a miscarriage may happen at the
 first

^h Vanier præd. rust. Lib. II. pag. 47.

first time of conception: hence that other is called *ἰμοτοκίαν* by some, or premature birth: the Athenians, as *Galen* testifies, called it *ἄμβλωσις*: but *Hippocrates* used to call it *ἀποφθοράν*, losing or perishing; because such untimely births usually came away dead, or, if alive, died soon afterwards. Seeing, however, that the *fetus* which comes away before the seventh month, hardly or ever survives, physicians therefore comprehend all such births under the general name of abortion; but as we have many examples of children born in the seventh month, which not only have survived, but arrived to a good old age, hence such were no more termed abortions, but only simply premature births. In the very first beginnings of impregnation however, when the human *ovum* has no attachment as yet to the *uterus*, if, at this time, such an *embryo* escapes out of the *uterus*, the loss can hardly be known by any sign; whence it is thought by some scarcely to merit the name of abortion. For the most part, therefore, a woman is said to abort when she parts with the *fetus* any time from the end of the first to the seventh month after conception. And, seeing that through the whole of this space the *fetus* is united to the *uterus*, the vessels all enlarged and full of blood, it is almost impossible but that, either before or at the time of miscarriage, a greater or lesser quantity of blood must flow from the *uterus*.

Hence perhaps a miscarriage, or abortion, may be properly said to be an expulsion of an immature *fetus*, attended with a sanguineous flooding.

For we may fitly distinguish the times of abortion into three different stages; the first, when the union of the *placenta* with the *uterus* begins to give way. It is very well known, that the human *ovum* adheres to the *uterus* most firmly at the place where it is connected by means of the *placenta*, with which the large
vessels

ⁱ Comment. I. in Lib. VI. Epidemic. text. 2. pag. 356.

vessels of the *uterus* communicate, and, when this connexion is loosened, pour out a good deal of blood, which, increasing in quantity, gradually loosens more and more the still weaker attachment of the *chorion* to the *uterus*, till it begins at last to go out by its orifice; and this is called the second stage of a miscarriage. The third and last is, when the *fœtus* comes away before its due time.

Now, if we call back to our memory those symptoms which usually appear in the first months of pregnancy, it will at once appear, how frequently a destruction of this tender connexion of the *fœtus* with the *uterus* may be justly apprehended. Vomiting, or any shock to the *abdomen* alone, may produce this mischance; especially if not only a squeamishness and reaching, but strong and frequent fits of vomiting prevail, which, as hath been before observed at § 652, may draw their origin as a cause, not only from a convulsion of the muscular fibres of the *fauces*, gullet, stomach, and intestines, but also of the diaphragm and abdominal muscles; whence all the *viscera* contained within the *abdomen* are strongly pressed and shaken. The danger is greatly increased, if the vessels of the body, at the same time, happen to be full of blood.

From thence too appears the reason why abortions happen most frequently about the third month; to wit, because the connexion of the *fœtus* to the *uterus* is but feeble as yet, and in women of a sanguineous habit, who formerly used to have large menstruations, the uterine vessels are very turgid and full of blood.

We are then next to consider by what method, or medicines, these symptoms may, if not entirely removed, at least be lessened, or mitigated; for it will very soon appear, that to obtain this end a good deal of caution and prudence will be extremely necessary.

S E C T. MCCXCVII.

WHICH, as far as they depend on one cause, are usually removed by the same remedy, *viz.* bleeding.

As the cessation of the *menstrua* was reckoned among the principal signs of being with child, hence all the disagreeable symptoms of breeding have been ascribed by some to a retention of this blood; and so they concluded that no remedy could be more immediate, than to take that away, by opening a vein, from which they imagined all those symptoms arose. But, from what has already been said, it appears, that there is not in every woman so great a quantity of menstrual blood evacuated, as, when retained immediately in the beginning of conception, can give any one the least apprehension. Besides, it clearly appeared, that many of those symptoms, usually reckoned among the signs of conception, had already taken place, before the quantity of blood could be any way increased from the retained *menstrua*: for it is customary with some women to conceive the very first days after the menstrual period goes off, and in many the *nausea* and reaching, and appetite for strange things, immediately appear. Neither do all the symptoms of breeding seem easily to be deduced from an increase of the blood alone, as in people of a plethoric habit of body they are sometimes not to be observed. But it was also shewn, that this retained blood was expended in filling the enlarged vessels of the *uterus* as it increased; and for this reason there could be no immediate superfluity, even though it was too much for the tender *embryo* to consume.

But here it seems highly necessary to pay due attention to the regulation and intention of nature,
which

which every phyfician ought to co-operate with, not controul. In a found healthy woman, the *menftrua* flow at periods; when ſhe has conceived, they ſtop. Were the intention of this blood, within the body of one that is pregnant, to be attended always with danger, the wiſe and adored Creator would have ſubſtituted other outlets by which it might be carried off. Thoſe pregnant women, beſides, which would by no means allow of bleeding, muſt have been liable to more troubleſome complaints than others. My own wife never had a vein opened with a lancet in her life; yet ſhe never miſcarried; and brought forth ſix healthy children, and always ſoon recovered from child-bed. The ſame I have obſerved in many others: hence I may alſo conclude, that blood-letting in every woman with child is not neceſſary; nay, nor always proper; and ſometimes does harm.

I am far from being of opinion, however, that in pregnant women a vein is never to be opened. Many I have ſeen, who, either on account of fulneſs, or ſudden rarefaction of the blood, required bleeding very much. Thoſe women, who are accuſtomed to have a large monthly diſcharge when they were not pregnant, feed on a rich luxurious diet, and take but little exerciſe, are in the firſt or ſecond months of conception frequently plethoric, and ſwelled up with too great a quantity of blood: to ſuch, as ſoon as I obſerved theſe ſigns of a *plethora*, I never heſitated to adviſe bleeding, well knowing how ready otherwiſe they muſt have been to miſcarry. In others, through a violent fit of anger, I have ſeen all the veſſels filled in a moment and ſwelled out, the face red and tenſe, and the eyes blood-shot: here bleeding was alſo of ſervice. From all this I would only mean to inculcate, that it ſhould not be held a general rule to bleed during the time of pregnancy, nor that all the uneaſineſſes, all the bad conſequences which ſometimes attend it, ſhould, with any kind of reaſon, be attributed to a neglect of this remedy. It
has

has been a long standing opinion, in several places, particularly in some families of distinction, that in pregnancy a vein is to be opened at three different times, to wit, in the beginning, about the middle, and towards the end, without regard to constitution, or habit of body. This I have seen done in pale tender women; and although they have cruelly languished, from that very cause, during the whole time of pregnancy, and have at last brought forth a weakly, sickly, and infirm child, being whole months confined to the bed before they were able to appear abroad, yet, with the greatest difficulty, could I prevail with some, and those indeed very few, to lay aside this pernicious practice for the future. Physicians themselves, too attentive to their own reputations, have not the courage to oppose this torrent, well knowing, that if any thing unsuccessful happen afterwards, it would all be ascribed alone to the omission of bleeding: on the other hand, when they are bled according to custom, the physicians are declared free from all blame, whatever should happen afterwards.

In the mean time, however, we have the weighty authority of the very best physicians to admonish us, that we are to proceed in this matter with great caution: *Hippocrates* has said*, *Mulier utero gerens vena secta abortit, eoque magis, si fœtus grandior fuerit,* “A woman with child, from opening a vein, is apt “to miscarry, and the more so in proportion to the “bulk of the *fœtus*.” And *Galen* is of the same opinion with *Hippocrates*, especially when the *fœtus*, grown bigger, requires a larger share of nutriment. Moreover, as a great quantity of blood usually flows out in delivery, when the *placenta* is brought away, and the *lochia* for several days go on to empty the uterine vessels, it may be asked, whether bleeding a little before

* Aphor. 31. Sect. 5. Charter. Tom. IX. pag. 213.

before may not be of use to lessen the excess of flooding. I know it is said, that by this means too great a quantity of blood is hindered from coming away from the *uterus* in bringing out the *placenta*: but neither is this opinion very probable; for the vessels which come from the *uterus* into the *placenta* are so large, that, when this connexion is once disjoined, the blood must necessarily flow out in great abundance; which the *uterus*, now disburthened by its contraction, still urges on the more: nay, were not this the case, the worst of consequences would often follow, as shall be more fully demonstrated afterwards, in the chapter on the diseases of child-bearing.

It must be confessed that this aphorism of *Hippocrates* does not altogether and absolutely hold true, because daily experience and observation shew, that abortion does not always happen after bleeding a woman with child. Whence *Celsus*¹ very wisely fixes the just bounds of this opinion of *Hippocrates*; for, in treating of venæsection, he remarks, that the antients in their practice never used to bleed children, old men, or women with child, *siquidem antiqui primam ultimamque ætatem sustinere non posse hoc auxilium genus, judicabant, persuaserentque sibi mulierem gravidam, quæ ita curata esset, abortam esse facturam. Postea vero usus ostendit, nihil ex his esse perpetuum, aliasque potius observationes adhibendas esse, ad quas dirigi curantis consilium debet: interest enim non quæ ætas sit, neque quid in corpore intus geratur, sed quæ vires sunt,* “seeing the antients thought that the first and last stages of life could not bear this kind of remedy, “persuading themselves also that a woman with child, treated in this manner, would certainly miscarry. Afterwards, however, experience declared “that nothing of this sort held constantly true, and “that recourse must be rather had to other observations.

¹ Lib. II. cap. 10. pag. 77.

“ vations, which may direct us in the true method of cure ; for it is not so material what the age be, or what is conceived within the body, but what are the degrees of strength.” These then will shew the physician what is to be done with regard to pregnant women ; nor will he by following this rule be so apt to commit a mistake : for if a woman with child looks pale and languid, he will carefully abstain altogether from bleeding ; on the contrary, if she looks red, is warm, and the veins swelled out ; if there is a head-ach, running at the nose, and she perceives a tension about the loins, *pelvis*, and groins ; then he will open a vein to prevent a miscarriage, that may very well be apprehended from too great a plenitude of the vessels ; always however, and even here, carrying in his mind these prudent admonitions of *Celsus*^m : *Mulieri prægnanti post curationem quoque viribus opus est, non tantum ad se, sed etiam ad partum, sustinendum : non quicquid aut intentionem animi aut prudentiam exigit protinus ejiciendum est ; cum præcipua in hoc ars sit quæ non annos numeret, neque conceptionem solam videat, sed vires æstimet, & ex eo colligat, possit, nec ne, superesse, quod vel puerum, vel senem, vel in una muliere duo corpora sustineat.* “ For in a pregnant woman, after the removal of the disorder, there is strength not only requisite to herself, but also to support what is in her womb ; nor are we hastily to make any evacuation, which requires the greatest prudence and consideration, since in this our art principally consists, which regards not the number of years, or the time of conception alone, but estimates the strength of the patient, and from thence considers, whether or not there may afterwards remain what is sufficient to support either a child, an old man, or two bodies in one woman.”

It seems plain from the whole context of *Celsus*, that the dispute was only, whether in case of diseases it was right to bleed women with child, not whether the same was necessary in sound, healthy, pregnant women. But *Hippocrates* expected no less than abortion from bleeding women with child, which, however, is so necessary in acute diseases: hence, perhaps, he lays it down in the aphorism preceding "*mulierem utero gerentem morbo quodam acuto lethali*," "that an acute distemper of any kind, seizing a woman with child, generally proves mortal." That it is a very dangerous circumstance to pregnant women, when they are thrown down in these distempers, no body can doubt, seeing, on account of the *fœtus*, there must be a greater nicety in the management and cure; as *Galen*° very well observes in his commentary on the text: for whilst food is necessarily exhibited to the mother in smaller quantity, and at longer intervals, there is great danger of the *fœtus* perishing for want of aliment: but if a greater quantity should be given, and more frequently, the danger is, lest by this improper diet you increase the fever, and thereby destroy the mother. Pregnant women, however, do not always perish when taken with acute distempers, as appears even from the testimony of *Hippocrates* himself^p: for that woman who lived on the sea-shore was three months gone with child, and lay ill of an acute fever, speechless, attended with *delirium*, convulsion, and want of sleep, thin ugly-coloured urine, and other bad symptoms; yet escaped from this violent disease, having got a crisis on the fourteenth day. Whence *Celsus*^q limits likewise this *prognosis*, saying, *Mulier quoque gravidæ*

^a Aphor. 3. sect. 5. Charter. Tom. IX. pag. 213.

^o Ibidem.

^p Epidemic. Lib. I. ægrot. XIII. Charter. Tom. IX. pag.

115.

^q Lib. VI. cap. 6. pag. 55.

gravida acuto morbo facile consumitur, “ A woman
“ with child is easily taken down by an acute dis-
“ temper.”

I have seen physicians very much afraid on account of these aphorisms of *Hippocrates*, when they have had the care of pregnant women in acute diseases, and who have either abstained from bleeding altogether, or, at least, dared not take away a sufficient quantity, or repeat it properly, although the distemper very much required it. This, however, I have known done, from my own experience, with the best success. One woman, six months gone with child, who was seized with a violent pleurisy, I cured successfully with three repeated bleedings, in the space of four and twenty hours, who was afterwards happily delivered, at the full time, of a very healthy child. In another, who was thrown down, in the last week of gestation, with an acute fever, attended with intense pain of the left side, I twice opened a vein; and, in four and twenty hours after the last bleeding, she was delivered of a healthy girl, and recovered very well both from the disease and from the child-bearing. Cases of the same kind, where bleeding has been of the greatest success in acute distempers of women with child, may be seen in *Forestus*^r and other practical authors.

From these, in my opinion, it is sufficiently apparent what sentiments we are to entertain with regard to this aphorism of *Hippocrates*, which forbids all venæsection during pregnancy. That it is sometimes requisite in acute diseases of women with child, and that it has also been administered, is confirmed by repeated and certain observation. We cannot however conclude from thence, that, in healthy women with child, bleeding is always necessary.

E e 2

When

^r Lib. II. Tom. I. pag. 59, & seq. Stalp. vander Wielen. obs. rar. centur. prim. num. 33. part. 1. pag. 132. & observ. 65. pag. 277, & seq.

When all the signs of a *plethora* appear, and women have been accustomed to large menstrual evacuations, every one agrees, that bleeding in that case may not only be useful, but likewise necessary; but, if otherwise, *Mauriceau*^s forbids it indeed, even where the blood in pregnancy comes away from the *vagina*, after the manner of the *menstrua*. *La Mote*^t, who is so very candid in the relation of what he observes, only allows of bleeding in pregnancy when women are very plethoric; yet he also allows it when they long for strange things, and loath at all good aliment; or when they are much afflicted with *nausea* and vomiting, feel a great debility, and when blood comes away from the *vulva*. But from what has been already said it is plain, that these symptoms cannot always be attributed to a fullness of blood, and therefore cannot always require the opening of a vein.

He concludes, however, that if a woman with child be well and in health, bleeding must not only be unnecessary, but also really hurtful.

S E C T. MCCXCVIII.

IN the administering of which, however, the greatest regard must be had to place, time, and quantity.

Place.] Seeing venæsection, in the first months of pregnancy, is only employed with a view to lessen the too great quantity of blood, this end, therefore, whatever vein is opened, may always be obtained. But as it was before observed, at § 1291, that bleeding at the foot was of principal use in forwarding the menstrual

^s *Traité des malad. des femmes gross.* Liv. I. chap. 20. pag. 156, 157.

^t *Traité des accouchem.* Liv. I. chap. 15. pag. 64, & seq.

menstrual flux, and for that very reason generally recommended; it is very obvious, why, on the contrary, it is condemned as hurtful to pregnant women, seeing there would be danger of a miscarriage, should the blood begin again to flow from the uterine vessels. Hence bleeding, during pregnancy, by the consent of all authors, must be performed in the arm. However, although the force and quantity of the humours may be derived to the lower parts of the body by venæsection performed in the feet, yet the blood, in this case, seems to pass more freely through the external iliac artery, which does not give so many branches to the *uterus*, and presses less upon the internal iliac, which provides the *uterus*: and frequent experience teaches us, that your wicked women, who are with child, in order to destroy the fruit of their clandestine amours, do often, under pretence of obstructed *menstrua*, try bleeding at the feet, yet all to no purpose. In the mean time it is always right to go the safest way to work, and therefore to prefer bleeding at the arm, when too great a congestion of blood, about the vessels of the *uterus*, is in any shape to be apprehended. *Danda est autem opera, ut quam maxime procul a locis, in quibus dolores fieri & sanguis colligi solet, sectiones faciamus: sic enim minime magna mutatio repente continget, & translata consuetudine efficiet, ut ne amplius in eundem locum colligatur*^u. “For we must, “ by all means, endeavour to open the veins at as great “ a distance as possible from where the pains are, and “ where the blood used to be collected: for thus too “ great and sudden a change will not be so readily “ brought on, but, by a gentle and easy translation, it “ may be so ordered, as not to fall any more upon the “ same place in too great a quantity.”

Time.] If an acute inflammatory disease requires bleeding, a vein may be opened at any time what-

E e 3

ever

^u Hippocrat. de off. natura, cap. 5. Charter. Tom. IV. pag. 3.

ever during pregnancy, as hath been said in the foregoing paragraph. But as we are here speaking of that particular evacuation of blood, designed to guard against the danger of abortion from a plenitude, and to correct those disagreeable symptoms usually attending on the first beginnings of conception, it is therefore very evident, that in this case it must be in the first months that bleeding chiefly takes place; for after the third month the *nausea*, vomiting, and all the other symptoms of breeding, wear off; nay, sometimes are entirely gone. Besides, after this time, the size of the *uterus* is greatly enlarged, and its vessels require a greater quantity of blood to fill them: the *fœtus* too, growing bigger, stands in need of a greater quantity of nourishment. In those of a full habit, who have been accustomed to have large menstruations, it is sometimes requisite to open a vein at the first stopping of the *menfes*; yet in a case of this kind it is more frequently done after the second period, or, if the signs demonstrate a fulness of blood in the body, and that the uterine vessels are much distended and pressed, in the ninth or tenth week after conception: for abortion happens more frequently at this time, not so often in the fourth month, and after that very seldom, unless by some violent disease, or external hurt, such as a fall, or stroke in the belly; or from some strong violent passion of the mind, which ought to be guarded against with the greatest care. Should the signs of plenitude again recur, for the same reason the bleeding is to be repeated; but I have seldom met with cases in my practice where many bleedings were necessary. Some, however, I have had occasion to see, who, being accustomed to luxurious feeding, and of a sanguineous habit of body, and liable to be easily put in a fit of anger on the least trifling occasion, in these it has been necessary to bleed four, nay, five times, in order to prevent a miscarriage. From the
signs

signs of a *plethora* a prudent physician can easily judge when it is necessary to make this evacuation.

As to the quantity, so much is sufficient, as serves to lessen the plenitude, without impairing and weakening the strength. When this is exactly observed, the patients feel themselves brisker after bleeding; but if there is too much taken away, they grow languid. Hence *Manningham*^w cautiously admonishes, even in diseases of women with child that seem to require bleeding, to take care *ne copia sanguinis larga uno tempore mittatur; quoniam effectus idem, si interpositis intervallis fiat, plerumque sequatur, & iis incommodis quæ temere effuso sanguine oriuntur, difficile sit mederi,* “that too great a quantity of blood be not taken
“away at one time; seeing the same effects will for
“the most part follow, when it is done in smaller
“quantity, at proper intervals, and the disadvantages arising from inconsiderate bleeding are not
“so easy to remedy.” The physical art is always more successful in taking away what is superabundant, than in restoring what is deficient; *parum enim valebunt potiones cardiacæ, ad vires, intempestive effuso sanguine, reficiendas*^{*}; “for cordial potions avail little,
“in recruiting the strength that has been lost by an
“improper and unseasonable evacuation of blood.” Whence this ingenious gentleman lays down this caution: *Quandocunque sanguinem mitti jusseris (in rebus præsertim dubiis) digito ægrotantis venæ continuo ab incisa vena admoto observandum, fortiores an languidiores (effluente sanguine) fiant ictus, (idque ex sola uncia permissa sedula observatione dignoscatur). Si fortiores fiunt ictus, tuto potes pergere; sin minus, vel si languidiores fiunt, incommodis officietur maximis ægrotans, nisi statim desinatur:* “Whenever you shall have occasion to
“prescribe bleeding, especially in doubtful cases,
“put your finger immediately to the patient’s vein
“as soon as the incision is made, and observe whe-

E c 4

ther

^w *Artis obstetric. compend. pag. 91.*^{*} *Ibid. pag. 23.*

“ ther the strokes, whilst the blood is flowing out,
 “ are stronger, or weaker: and this you may do,
 “ by careful attention, before an ounce be allowed
 “ to come out. If the strokes are pretty strong, you
 “ may safely proceed; if not, or should they be ra-
 “ ther languid, it will redound very much to the pa-
 “ tient’s hurt, unless you presently put a stop to the
 “ evacuation.” *Celsus* * has made a remark something
 a-kin to this, where he says, *Vis corporis melius ex*
venis, quam ex ipsa specie, æstimatur, “ The strength
 “ of the body may be better estimated from the veins
 “ than from the size or figure itself.”

S E C T. MCCXCIX.

HERE also a thin diet, well-timed exercise,
 and a light weak sort of drink, are of the
 greatest service.

Thin diet.] All the abdominal *viscera*, which
 serve to retain the aliments, and change them into
 chyle, are moved out of their proper place by the
 swelling of the *uterus*, and sometimes, as pregnancy
 advances, and the *uterus* enlarges, are greatly com-
 pressed. In the beginning of conception too there
 is often a troublesome *nausea*, which disturbs very
 much the action of the stomach. Hence it is very
 evident how much a thin diet of well-boiled meats
 is requisite; such as broths, for instance, made of the
 tender flesh of younger animals, fresh-water fishes,
 new-laid eggs, soft greens, and well-leavened bread.
 It is also better to take rather frequent refreshments
 of food, than to load the stomach with much at a
 time. Gross fat meats, and such eatables as are pre-
 pared of unfermented grain, are strictly to be avoid-
 ed: however, in the diet of women with child, re-
 gard

* Lib. II. cap. 10. pag. 78.

gard must be always had to custom, as they bear the meats, which they are used to, more easily; neither are they always to be rigidly opposed, even when they desire those sorts of meats which do not appear altogether so wholesome and proper. See what has been said § 599 and 602.

This rule of diet is frequently transgressed by mothers, who are oft-times too solicitous in cramming women with child, even against their own inclination, with rich soups and other cookery, which, in a small quantity, contain a great deal of nutriment; imagining, no doubt, that all possible means must be used, not only to nourish the mother, but likewise the child within her: but, in fact, the stomach is rather loaded with a quantity of this sort of food, not the body nourished.

With regard to seasoning, all hot spices, and every thing acrid and sharp, are to be avoided, or at least, if the person has been long accustomed to them, to be taken sparingly; for a mild soft disposition of the mother's humours is of great advantage to the child in that tender condition.

Well-timed exercise.] It was before observed, how easily women in the country bring forth children, hardly ever laying aside their daily work, until they feel their labour-pains: but this cannot take place in women bred in a delicate way. Here walking is of service, particularly in a pure, serene, country air, not so, however, as to fatigue. A carriage, unless well hung on straps or springs, is not so safe: hence journeys are by no means proper for women with child, partly on account of the roads, and partly the sudden fright with which they are apt to be struck when any unlucky accident happens. Ascending any steep path, as it fatigues too much, or going down a sudden declivity, as it can hardly be performed by big-bellied women without danger of falling,

ing, are both carefully to be shunned. But all long-continued violent dancings are more especially to be condemned, from which very dangerous hæmorrhages and abortions so often happen. In like manner all violent strainings are to be avoided, as either in lifting up a weight, or in removing any obstacle, and such like. I saw once a very worthy lady miscarry, from endeavouring suddenly, when with child, to lift up her little son of two years of age, who had fallen down.

Light weak sort of drink.] Pure water is a very good drink to those accustomed to it; nor could I ever observe any harm follow from drinking small beer to those who had been used to drink it. A little wine also may be mixed with water for common drink; nor is it unusual to allow just after dinner a glass of some generous balsamic wine to be taken with a little biscuit, or toasted bread, especially if the stomach be disordered, as it often happens to be in the beginning of pregnancy. These, however, are usually granted with greater caution and prudent restriction to persons of a warm and sanguineous habit of body: but drink which is very cold, and particularly when rendered so by means of ice, if given to women with child, *exinde colicam passionem sæpe patiuntur, & abortionem faciunt*, “ frequently occasions a colic, or brings on a miscarriage.”

S E C T. MCCC.

AROMATIC cordials, in the mean time, together with the mild sort of anti-hysterics, or even some of the gentler sub-acids, are of the greatest use and efficacy.

^z Manningham art. obstet. compend. pag. 65.

Very many women with child are more or less sickly and faintish, particularly in the first months of their pregnancy. Those too whose nervous system is very sensible, and easily irritated, are frequently seized with hysteric fits; whence physicians, of all remedies whatsoever, have perhaps contrived none better than such as by their agreeable fragrancy have a power to remove this languor, and to restore vigour to the solid fibres, which have been too much weakened, as also to compose, at the same time, and allay the disorderly commotions of the nervous system. Hence cinnamon, which obtains the first place among aromatics, is so often in this case recommended; for, together with its agreeable fragrancy, it has a pretty manifest strengthening quality. On this account, also, the powder of cinnamon infused in wine, and the *tinctura*, are preferable to all other preparations of this aromatic, which retain all its fragrancy indeed, but are destitute of the strengthening quality: such are the essential oil of cinnamon, distilled water, or even the strong spirit of cinnamon; all which are indeed very fragrant, but the whole strengthening power remains in the *residuum* after distillation, not being able to pass over the alembic along with the volatile odour. Orange and citron skins are also of mighty use here, as they are wonderfully refreshing by their agreeable flavour, and possess, at the same time, a grateful bitterness, which is very friendly to the stomach; particularly that of oranges. But their juices too, by their grateful acid, are very pleasing, and when mixed with food, by way of seasoning, very happily restore a lost appetite, and, at the same time, resist all kind of putrefaction. For the same reason, the juice of red currants made into a jelly with sugar, the strengthening pulp of quinces, or the sub-austere acid juice of berberries, are much recommended to pregnant women. There are various formulas under this head

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to be met with in the *Materia Medica*, agreeable to which a great many compositions of this sort may be elegantly contrived, more or less aromatic, according to the patient's different habit of body.

As for hysteric affections, the strong rank odour of *castor*, amber, their tinctures, with several others of that class, are much recommended in order to allay them; but they must be used in a small dose only, seeing all these are known to be ranked amongst the powerful emmenagogues.

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FROM the increase and bulk of the *fœtus* seem to arise almost all the same things mentioned (1296). And besides the difficulty in making water, and going to stool, the piles, swellings of the veins of the feet, and of the lips of the *uterus*, with a constant readiness to fall down.

It was before remarked, that all the symptoms of pregnancy could neither be clearly understood, nor explained, from the retention of the *menstrua*, nor from the size and bulk of the *fœtus*, secundines, and waters, which, in the beginning of pregnancy at least, were exceeding small; whence also it was observed, that many of the symptoms, attending the first beginnings of conception, were very much abated, or sometimes entirely ceased, after the third or fourth months. But these uneasy symptoms, which arose from the increased size of the *uterus* containing the *fœtus*, were rather augmented all the way to the end of gestation; for if, as we took notice before, at § 1295, the bottom of the womb, in that woman who died in the sixth month of her pregnancy, was found to touch the bottom of the stomach, and the
intestines

intestines were pushed upwards and to each side, so as nothing remained between the *uterus* and back bone, and that the anterior part of the swelled *uterus* was also in close contact to the naked *peritonæum*, it is very evident, that, during the remaining months of gestation, this pressure upon the *viscera* must have still gone on to increase along with the farther extension of the *uterus*. The motion of the diaphragm is by this means rendered more difficult, and sometimes by the irritation is seized with a cramp; and thus a true spasmodic asthma is produced, which returns by fits, especially if the stomach at the same time shall happen to be swelled either by food or flatulency. I have observed this in a woman, who, immediately upon delivery, was freed from the uneasy complaint.

But what contributes much to alleviate the uneasiness of these complaints is the gradual increase of the size of the *uterus* in pregnancy, whereby the situations of the *viscera* are changed by gentle and equable degrees. But it sometimes happens, that the *fundus uteri* does not rise strait up, but inclines to one side or another, as shall be shewn in the following chapter: in that case the pressure of the *uterus* will be more unequal, and may considerably aggravate these complaints. Does not *Hippocrates* seem to point out some such thing, when he says ^a, *Prægnantibus hypochondrii dolor, malum?* “In women with child a pain about the *hypochondrium* is bad?” We have frequently on other occasions remarked, that when *Hippocrates* puts this word in the singular number, he always means the right *hypochondrium*. Now, if the bottom of the womb shall ascend obliquely towards the right side, it will press the bulk of the intestines towards the concave part of the liver, where the gall bladder, biliary ducts, and trunks of the *vena portæ*, are situated; whence it

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^a Coac. prænot. N°. 523. Charter. Tom. VIII. pag. 383.

is easy to see what a number of disorders may readily happen, and are justly to be apprehended from a pain in the right *hypochondrium* during a state of pregnancy.

Difficulty in making water.] Here we only speak of that difficulty in making water occasioned by the growth of the *fœtus*, and increased size of the *uterus*, and what is principally to be observed in the last months of gestation; for, during pregnancy, a difficulty of urine may arise from other causes, which have no relation to this particular situation. Thus I had occasion to see a certain woman of thirty years of age, in her third month after conception, suddenly taken with a very troublesome dysury, without any apparent preceding cause: a few hours after, the upper parts of the *pudendum*, towards the urinary passage, began to be painful and swelled: she was blooded; the softest remedies were employed, both externally and internally, from which indeed she received some relief, but that pain which began about the urinary passage dispersed itself over the whole *abdomen*: the sixth day she could hardly lie down, but was obliged to sit up erect in bed: at the same time she was sensible of a violent pain about her right kidney; and the urine came away sometimes easier, and sometimes with greater difficulty; the pain about the kidney continued sometimes milder, and at other times grew more violent: at last, after six weeks were elapsed, she passed by urine a quantity of pure equable *pus*, with a sudden relief to the pain about the kidney: she went on for a considerable time to pass this purulent urine, and, at the end of the fifth month, was delivered of a dead *fœtus*. She afterwards refused to take those remedies advised as proper for the ulcer in her kidney: the quantity of *pus* in her urine lessened indeed; but then she began to be emaciated, and to have a cough and purulent spitting, and, gradually worn out with consumption, she at last expired. Such

Such disorders as these may happen to women with child; but a free passage of the urine may also be hindered, even by the size itself of a gravid *uterus*; for the bladder lies just over the *uterus*^b. Hence, when this last is swelled up, it may so compress the bladder as to hinder it from being sufficiently distended, and thus a woman with child is obliged frequently to make water. But if the neck of the bladder happens to be compressed, the free passage of the urine is obstructed, and part of the urine, remaining long in the bladder, is by its stay rendered still more acrid, and continually irritates, and thus occasions a most disagreeable strangury, which chiefly uses to happen in the last months of gestation, when the bladder sometimes is so far depressed as to make a considerable angle with the neck. An instance of this *Mauriceau* had occasion to observe^c in a pregnant woman, who frequently, during the three last months, had to force out her urine, and with so much pain, as if she had been afflicted with the stone or an ulcer in the neck of the bladder; but after delivery all these uneasy complaints were immediately removed.

Brudnell Extcn^d, an eminent author in midwifery, has observed the same thing happen in the fourth and fifth month of pregnancy, when the gravid *uterus* fills up the hollow of the *pelvis*, but has not as yet raised its bottom much above the bones of the *pubis*. But this more particularly happens to women whose neck of the *uterus* comes lower down into the *vagina*, as is frequently the case with those who have had a falling down of the *uterus*, whether completely so, or only beginning; for notwithstanding the *uterus* may not project without the *vulva*, but only fill up the *vagina*, yet it may sufficiently compress the neck of the bladder so as to

^b *Mauriceau traité des malad. des femm. gross. Liv. I. chap. 15. pag. 138.*

^c *Ibid. pag. 139.*

^d *System of midwifery, pag. 144.*

to hinder every drop of it from passing that way. We have an account of such a case, where the *catheter* could not by any means be introduced into the bladder; but, upon reducing the *uterus* that had fallen down, the vast quantity of urine, with which the bladder had been distended, came away of itself.

This difficulty of urine seems, of all, principally to molest those women with child, whose *uterus*, whilst their belly hangs very much forwards and downward, sliding forward above the bones of the *pubis*, causes the bladder to form an angle with its neck, and thus hinders the free passage of the urine, and at the same time renders it very difficult to introduce a *catheter* into the bladder. It has been observed that the bladder in women with child, distended by such a suppression of urine, has produced tumours in the groins, and in the *prinæum*, that is, a genuine rupture of the bladder, concerning which, see *Academia Chirurgica Parisiana*^e, where such cases, observed in women with child, are fully related: perhaps the following passage of *Hippocrates* has some relation to this g. *Interdum etiam, ubi mulier vasorum vacationem passa fuerit, ac præterea laborarit, uteri conversi ad vesicæ osculum procumbunt, & stranguriam inducunt: nullum autem alium habet malum, & curata brevi convalescit, nonnunquam etiam sponte.* “ Sometimes, also, “ when a woman has suffered a considerable evacuation from her vessels, and several other uneasinesses “ besides, the *uterus*, turned upon the orifice of the “ bladder, lies above it, and brings on a strangury: “ but she has no other inconveniency, and being “ cured, recovers very soon, and sometimes without “ using any remedy.”

And going to stool.] When the gravid *uterus* swells up, all the intestines are pushed up, and give way on each

^e Levet sur les polypes, pag. 112, 113.

^f Tom. II. pag. 23, & seq.

^g De mulier. morb. Lib. I. cap. 10. Charter. Tom. VII. pag. 735.

each side, where they are more or less compressed in proportion to the straitening of the cavity of the *abdomen*. But as the contents of the smaller intestines are of a softer consistence, their passage through them is not so much obstructed. It is in the larger intestines that the thicker part of the aliments resides; where the thinner part being taken up by the absorbent vessels, what remains becomes still of a harder consistence, till it is at last expelled by the *anus*. The latter part of the *colon*, every one knows, before it terminates in the *rectum*, ascends upwards, then bends inwards, then goes strait down again into the *pelvis*, where it obtains the name of the *rectum*, or strait gut. Now the bulk of the *uterus*, when swelled up, particularly presses upon this place, where of itself, even in women not with child, it is very apt to retard the passage of the *fæces*; and therefore no wonder that we see the belly so often astricted during pregnancy. Great care, however, ought to be taken that the belly remain not too long so, because the excrement is more and more dried up, gathers in greater quantity and hardens; whence it is not, without the utmost difficulty, that they can afterwards be expelled by the *anus*; which sometimes has been the cause of a miscarriage: for if only part of the indurated *fæces* come away, the rest, by degrees, accumulate, all the larger intestines are blocked up with *fæces*, and especially the *intestinum rectum* is dilated into a huge sac, such as was found in the body of that young patient, about fifteen years of age^a, who had laboured under an astricted belly so long, that in the space of twenty days she had only gone once to stool. It is remarked at the same time, in that very place above cited, that with many, who were long afflicted in the same manner, it was necessary to have recourse to various means, whether by

^a Académ. des sciences. 1750. in 4to. hist. pag. 48.

the fingers, or even with instruments, to extract the very hard indurated *fæces*:

Nor is it only the *intestinum rectum* that is liable to be so distended by a retention of the *fæces*, but the like dilatation may happen through the whole length of the *colon*. I was once called, a great while ago, to an English woman, who had brought forth her child in a very easy and happy delivery, and who, for the first days of her lying-in, felt no inconveniency whatever; but on the ninth day after her delivery, although she had gone four times to stool during that space, she began to complain of an obtuse pain and weight about the *os sacrum*, together with a *tenesmus* or painful but fruitless attempt to go to stool. Glysters were injected, but returned immediately; opium was given in great abundance; decoctions of the mildest kind, with honey and liniments, were applied to the *anus*, and neighbouring parts: at length the indurated mass of excrement came downward, and began a little to open the *anus*, insomuch that she attempted to lessen the bulk, by picking part away with an instrument: at last, after the greatest distress, pain, and agony, endured for two days together, the enormous mass of indurated *fæces* was excluded, and equalled at least, if not exceeded, the head of a ripe *fœtus* in bulk and largeness; and notwithstanding great a mass could not pass without tearing the *anus* considerably, yet with the assistance of a skilful surgeon, she perfectly recovered from this great and threatening mischief.

It is very plain that this lump of hardened *fæces* had been gathering during pregnancy, yet neither lay in the *intestinum rectum*, nor in the end of the *colon*, otherwise it must have obstructed the delivery but a little higher, and had come down when the *colon* was gradually dilated after child-bearing. At the same time it must be remarked, that such a large collection of hardened *fæces* may distend the large intestine

intestine, and yet not fill it up so close, but that some of the softer excrement may pass by, carrying some of the lump along with it, and forming afterwards into a proper figure and consistence, in the other part of the intestine, may at last pass out of the belly without much uneasiness.

Whence authorsⁱ, who have wrote concerning the diseases and cure of pregnant women, are at the greatest pains to caution against too astricted a belly during the time of pregnancy. But as the frequent use of purgatives is not so convenient to women with child, hence emollient and lubricating glysters have been recommended; particularly when thrown up by means of a syringe; for then they go farther up the intestines, than when administered only by means of a bladder: suppositories are also recommended, which by their *stimulus* not only irritate the *rectum*, but likewise the *colon*, into a contraction; by which means the *feces* are stirred on from their place of lodgment, especially if the intestine has been previously lubricated with an emollient and oily glyster, and the hardened excrement somewhat softened; for in that case they will come down with less difficulty, and without much straining be expelled by the *anus*. This same author thought it a matter of such importance, that he would not have a physician trust even the account of the patient herself or nurse, but that he should inspect the quantity of *feces* with his own eyes, nor leave off the use of these remedies until the excrements should come away in a softer consistence.

Piles.] That the swelling of the *uterus* presses upon the iliac veins, and so makes the return of the venous blood from the parts below more difficult, has been already observed: hence it follows, that the veins will be swelled out, and even the arteries, when they cannot so easily empty themselves into the veins

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ⁱ Brudnell Exton, pag. 146, 147.

already too full. This is the reason that the piles happen so frequently during the time of pregnancy, and more especially in those who have formerly been accustomed to suffer from them; for these vessels, having been once dilated, easier give way, and swell upon the smallest weight of blood bearing down upon them. This cause is considerably increased from the hard *fæces*, gathered about the end of the *colon*, compressing the vessels; as also from the size of the *uterus*, when tumefied, pressing upon the same parts of the intestine. Nay, even about the neck of the womb, and towards the orifice, the vessels are sometimes observed to swell like piles, as hath been remarked on another occasion at § 1286.

Swelling of the veins.] From the same cause arise varicous swellings in the legs and thighs, the veins rising up into knots about the places where the valves are situated. These varicous tumours usually go down after sleeping, as then the horizontal position of the body hinders the enlarged gravid *uterus* from pressing so much upon the iliac veins: for this reason, women with child are advised, several times through the day, to lay themselves along upon a couch, with their legs in a horizontal posture, that so the venous blood may return with more ease towards the heart. In the mean time particular care must be taken not to change the situation of the body too hastily, lest the venous blood, collected in the swelled veins, return too suddenly to the heart, and oppress it; whence a fainting fit may be apprehended, as has been said at § 1296. From varicous swellings we have this in particular to be afraid of, lest the veins, by being long stretched out, lose at last all their strength, (see § 25. 3.) and, bursting at length, should produce a very dangerous hæmorrhage: besides, the blood in varicous swellings stagnating, through time, may become more acrid, and erode the coats of the veins; which, though it may

may not happen during the time of pregnancy, yet may sometimes be the case a long time after, in women who have frequently brought forth children; in some of whom I have seen the varicous swellings exceed the size of one's thumb, which have at length bursted asunder with a very profuse hæmorrhage, and afterwards degenerated into a kind of ulcer exceeding troublesome to heal. After delivery, when the *uterus* is emptied and contracted, the cause of the veins being distended is removed; hence, in a short time, they return to their former dimensions, unless they have been so much distended as to lose all their contractile power. To prevent this, a lying posture is necessary, and gentle friction in the morning, and afterwards applying a bandage upon the swelled veins, so as not to press the veins too tight, but only to support and strengthen the relaxed vessels, and hinder them from being too much distended: to this it is necessary to begin the application of the bandage at the inferior parts, gradually advancing upwards; and, at the same time, it ought to be of a sufficient breadth, that the pressure may be more equal.

Swelling of the feet, and lips of the *uterus*.] It was formerly proved, at § 1228 and 1229, when treating on the cause of a dropsy, that a compression of the larger veins might produce that distemper; whence it is no wonder, that when the iliac veins are compressed, an *anasarca* should fix upon the feet, legs, and thighs, as also the lips of the *uterus*. If from the situation of the *uterus*, or the iliac vessels, it should happen that the vessels of one side should be more compressed than those of the other, then this dropical swelling will only appear on the side which is compressed.

These œdematous tumours, however, of the joints, at the lower extremities, are not so very alarming, as, after delivery, when the cause is removed, they usually disappear without leaving any bad effects;

more especially if the stagnating lymph be set in motion again by means of gentle friction. These tumours are also frequently dissipated by promoting the urinary evacuations, or by watery stools, or by sweating; after which it is necessary to strengthen the parts by bandage: and thus, in a few days, the disorder may be wholly removed.

We are assured by *La Motte*^{*}, that, however large these œdematous swellings might be, he had never seen any woman with child, or even after delivery, carried off on their account, unless they had been accompanied with a vast loss of blood, or convulsion, at the same time, or some other uncommon symptoms.

For when a tumour of this kind arises from a compression of the veins, it is usually diminished after lying down, and after sleep, and chiefly appears in the last months of pregnancy: after delivery, the cause being taken away, an easy cure may very well be expected. It is far otherwise when hydroptic symptoms arise in consequence of too large evacuations of blood (see § 1229.) for when the *placenta*, after delivery, comes away, and the blood afterwards pours out by the *lochia*, the cause of the dropsey in that case is rather increased than diminished.

There is more appearance of danger when the lips of the *pudendum* swell, and are œdematous, lest it should obstruct the expulsion of the *fœtus*: but œdematous tumours of this sort easily give way; and I have seen a woman, who had these parts immensely swelled, nor would take any thing by way of remedy for it, go through her child-bearing very successfully, notwithstanding the midwife, terrified with the greatness of the swelling, had given over all hopes.

Nor even is the cure of this disorder so difficult: for by slightly scarifying the lips of the *vulva*, the watery lymph runs out, and the swelling is quickly diminished. A blister may also be applied with very good

* *Traité des accouchemens*, Liv. I. observ. 42. pag. 79—82.

good success, so as partly to lie upon the swelled lip of the *vulva*, and partly upon the adjacent place of the thigh¹.

But the danger is more imminent, and of a much more doubtful nature, when the lips of the *vulva* happen to be seized with an inflammatory swelling, attended with a fever, especially when the term of delivery is near; for the interior parts of the *vulva* are, for the most part, inflamed at the same time; and, by the most skilful practitioners in the art of midwifery, women affected in this manner are all observed to die soon after delivery.

It is very well known, that parts when inflamed, if they shall be hard pressed, or rudely handled, very quickly become gangrenous: this, therefore, may with justice be apprehended, when the child's head, in time of delivery, presses and squeezes these inflamed parts, and sometimes even lacerates the swelling.

Readiness to fall down.] The belly, in women big with child, naturally inclines forwards, and so much more indeed the nearer they are to their time of delivery; therefore they are obliged to walk with the trunk of their bodies bent backward, in order to maintain the centre of gravity of the whole body.

The buttocks in women being, *ceteris paribus*, more fleshy, and the *os sacrum* jutting out more backwards, help to preserve the *equilibrium* of the body in women with child: however, upon striking their foot against the least obstacle, they fall directly forwards: hence it were to be wished, that, in walking, they would make use of a staff, for then their falling might be more frequently prevented. It ought, at the same time, to be recommended to them, that they would wear low broad-heeled shoes, and shun going up and down stairs, or at least walk slowly, and with great caution; for, in women with child, there is

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¹ Levret l'art des accouchemens, pag. 202.

the greatest danger to be apprehended, from a fall, of a violent flooding from the *uterus*, and miscarriage.

But feing all the inconveniences, juſt now enumerated, ariſe from the increaſe of the *fœtus*, and enlargement of the *uterus*, all theſe muſt be conſiderably aggravated when the *uterus* happens to contain two *fœtuſes*, or even more; which, however, is ſeldom the caſe: whence *Mauriceau*^m remarks, that all thoſe, who carry twins, have their legs very much ſwelled in the laſt months of geſtation; and even elſewhereⁿ he ſays, their thighs, and lips of the *vulva*, ſwell at the ſame time. He thinks this may be pretty certainly known, if the belly in the woman with child riſes on each ſide, leaving a depreſſed line in the middle, and if there are different motions at the ſame time to be perceived in each ſide of the belly; which happens more frequently as the ſtirring of one child generally excites that of the other; for although incloſed in ſeparate membranes, yet they are very contiguous to each other. Along with theſe ſigns, if, at the ſame time, there were very large tumours on the joints of the lower extremities, then this ingenious author was moſt certain that the woman's belly contained two or more *fœtuſes*.

Although, indeed, we may very juſtly ſuſpect, when all theſe ſigns appear, that there are twins contained in the *uterus*, yet it does not ſeem altogether ſafe to affirm it for certain; for I have frequently obſerved the event ſhew the contrary, notwithstanding the midwives, and women with child themſelves, had been firmly perſuaded that there would be a delivery of twins. *Bartholine* makes the following remark °. *Tumor enim ſæpe major in ſimplici fœtu, quam gemellis;*

^m Traité ſur. les malad. des femm. groſſ. Lib. I. chap. 17. Tom. I. pag. 145.

ⁿ Ibid. Chap. VIII. pag. 104.

° Epistol. medic. centur. IV. Tom. IV. pag. 142.

gemellis ; quod sæpe observavi, sive quod copia humiditatum ibi major sit, sive quod fœtus simplex nonnunquam gemellos vel æquet vel superet. Duplicem in abdomine lineam aliqui pro indicio habent, gestari gemellos utero ; sed in uxore mea id non successisse, animadverti, &c. sane non paucas gravidas novi quæ in hoc signo falsæ fuerunt, uniusque fœtus diversum, & validum motum sentientes. Singulare experimentum adfertur, ultimis nempe mensibus tibias & pedes inflari ; quod verum deprehendimus in omni gestatione etiam simplicis fœtus. “ For the swelling is often greater in a single fœtus, than in the case of twins ; which I have frequently observed, whether on account of a larger quantity of waters, or that the bulk of a single fœtus sometimes equals, or even exceeds, that of twins. The double line along the belly has been held by some as a certain sign of twins being contained in the uterus ; but that I have seen fail in my own wife, &c. In truth, I have known not a few deceived in this sign, taking the various and violent motions of a single fœtus to be the different motions of twins. Another singular proof is brought, to wit, the swelling of the legs and feet ; which circumstance is to be found in every gestation, even of the single fœtus.” I heartily agree with this great man’s observations, as I am from my own proper experience convinced of the truth of what he has here said.

With regard to the future sex of the fœtus we have no certain sign whatever : *Moschio*^p has collected the principal, as they are handed down from the antients. They believed there was a male child in the uterus, when the fœtus began soon and strongly to stir itself in the belly, or if the mother kept of a lively and healthy colour, or if the right breast appeared larger : on the contrary, they imagined it to be a female, if the woman with child was weakly and of a sickly colour, and the left breast appeared bigger.

^p Spachii gynæc. pag. 3. No. 26. and pag. 20. in fine.

bigger. What were *Moschio's* own sentiments with respect to these opinions does not clearly appear, as in the end of this text there is a blank, which they have endeavoured to supply in the margin, ὅμως οὐ ἀεὶ ἀληθὴ εἶναι; as not being always certain and true: and so far it has been confirmed, that these signs are not always to be depended upon.

It is very well known, as we have already observed, that the antient physicians thought that the *uterus* had two distinct cavities, of which the right was appropriated for males, and the left for females. From this mistaken opinion many of the presages with regard to the sex of the *fœtus* took their rise: if, for instance, the right or left breast appeared larger; if the woman with child, when resting upon her knees, should, in rising, lift up the right leg first, or the left; and many other such notions. Some would have this matter determined by the *phases* of the moon. All these notions may be seen collected in the writings of *Mauriceau* ⁹, who proves every one of these presages to be erroneous, and thinks it impossible to determine any thing with certainty, in respect to the sex of the *fœtus* contained in the *uterus*: only he excepts one particular sign, and that is, women who have borne several children had observed, that when they went with males, they greatly desired some particular things, which they had rather an aversion to when they went with females; or they had taken notice of some other peculiarity denoting the difference of sex during pregnancy. I knew a lady who was exceeding fond of coffee when with child of a boy, and could not endure it when she was with child of a girl; and from this sign alone she took her presage, nor ever was mistaken.

Here *Mauriceau* has given a very shrewd advice, to wit, that the midwife should get certain intelligence

⁹ Traité des malad. des femm. groff. Lib. I. cap. 8. Tom. I. pag. 98, & seq. Ibid. pag. 102.

gence what sex the family is particularly desirous to have, and, when she has learnt this, always to preface the contrary sex: should she happen to foretell aright, the parents will be amazed at her skill, who was so positive in an opinion so contrary to their wishes: if it happen to fall out otherwise, being put in possession of what they most eagerly wished for, they will more easily excuse the falsity of the presage.

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IN which cases bleeding may sometimes be a means of relief, (1297.) or changing occasionally the situation of the body, as also a proper application of bandages, and such like contrivances; and, lastly, softening liniments.

The next thing to be considered is, by what means these inconvenient symptoms, enumerated in the preceding paragraph, may be, if not altogether taken away, at least considerably alleviated; for the *fœtus* must go on to increase, and the *uterus* to be enlarged, and its vessels, growing more capacious, must always be kept filled with blood; and the same holds true with regard to the *placenta*, and its vessels which are implanted in the *uterus*. Blood-letting in this case is recommended as a remedy, which, if not always, is at least sometimes, of service. But, as we observed before from *Hippocrates*, a great part of the blood in women with child, being collected about the *uterus*, whilst the rest of the vessels of the body are deprived of their former proportion of blood, they lose the freshness of their colour on that account. Would it therefore be proper in their case to lessen the quantity of blood by venæsection? One can hardly think so; for we are not speaking here of persons

persons of a plethoric habit, nor women with child under the power of any acute inflammatory distemper, which necessarily requires bleeding; for in such a situation venæsection must, at any time of pregnancy, take place. I have sometimes seen women with child so very plethoric, that notwithstanding the *uterus* and *fœtus* were both very much enlarged in size, yet their whole face was turgid and red, the veins all swelled, and the pulse full to the touch. No one of the least sagacity can doubt but the letting blood must prove here of the greatest service, and more especially if it should happen very near the time of delivery: for then it is justly to be apprehended, lest, by the violent efforts in labour, the blood be forcibly thrown into the vessels of the brain; which may occasion a total suppression of all the functions, or even a mortal apoplexy, from the bursting of the vessels: convulsions too may be the consequence, or, from the rupture of the pulmonary vessels, a very dangerous *hæmoptœ*. I have seen such unfortunate accidents happen, where the prudent admonitions of a physician have been injudiciously slighted by your very conceited old foolish women. I am still, however, of opinion, that in a woman of good health, mere pregnancy itself does not require venæsection by any means; and I can never think that delivery is thereby rendered easier, or that it is of any use in preventing the several disorders which happen in child-bed; conception, growth and enlargement of the *uterus* and *fœtus*, delivery itself, being all the work of nature alone, which a physician ought always to be careful never rashly to disturb.

The most eminent masters in the art of midwifery have given the same admonitions. Thus *Mauriceau*^s, when he is treating of alleviating the inconvenience attending pregnancy from varicous swellings, pain and swelling of the legs and thighs, piles, &c. recommends

^s Lib. I. cap. 17, & 18. pag. 144, & seq.

tends bleeding in the arm: *Si in reliquo corpore signa plenitudinis & abundantiae sanguinis adfuerint* ^c: “ If the signs of plenitude and superfluity of blood take place in the other parts of the body.” In another place he condemns the custom of letting blood near the time of delivery, unless some other pressing symptoms make it necessary, and advises to abstain from bleeding altogether after the seventh month. *La Motte* ^u lays it down as a general rule, *si gravida se bene habeat, venæsectio non tantum est inutilis, sed noxia*, “ that, if a woman with child be well, and have no complaint, bleeding must not only be useless, but hurtful.” Plethoric people he advises to open a vein, and those who in the beginning of pregnancy are afflicted with *nausea*, vomiting, lassitude, or fainting. He recounts, however, a case of a woman of a pretty sanguineous and full habit of body, where he was very unwilling to allow of bleeding, because she was in very good health, and felt no inconvenience whatever from being with child. It was in vain that he urged, that she had supported her former pregnancy, and that the delivery in consequence had been successful, without bleeding: he was obliged to open a vein. But as she had conceived immediately after her husband’s return from a very long journey, she could pretty exactly compute the time of her reckoning, which was now about twelve days distant: the following night, however, after the bleeding, she brought forth a child, which was thought hardly to be fully ready, and even his living was almost despaired of; yet he escaped, and grew up afterwards to manhood. In the same place he relates another such case, and from thence concludes that he was more and more confirmed in this opinion, *quod nunquam suadenda sit venæsectio gravidis, nisi evidens adsit necessitas*, “ that bleeding is never to be advised to women with child, unless there is an evident necessity for
“ it.”

^c Lib. I. cap. 27. pag. 198.

^u Traité des accouch. Liv. I. chap. 15. pag. 64, & seq.

“ it.” At the same time, he thinks the custom of opening a vein about the middle of the term of pregnancy both foolish and dangerous.

Changing occasionally the situation of the body,] in order to lessen the pressure of the swelled *uterus* upon the iliac veins, and to forward the return of the blood retained in the varicous veins. This is chiefly obtained by lying down in bed, or on a couch, in different situations, as hath been mentioned in a preceding paragraph. So also to remedy the difficulty of making water, *Mauriceau*^w advises women with child, when they go to make it, to raise up the belly with their own hands, or with a swathe or band for the purpose, to sustain the weight of the belly, and take off the pressure from the bladder. Others find their advantage in lying with their body forwards when they attempt to empty their bladder: for by this means the weight of the abdominal *viscera* will bear less upon the bottom of the *uterus*. *Moschio*^x too orders the weight and size of the belly, about the eighth month, to be carefully supported by proper swathes, observing that women with child find themselves particularly uneasy this month. If, after trying all these changes of posture and situation, the urine does not come away, then it is to be drawn off by means of a *catheter* introduced into the bladder; but, as the *urethra* in women is shorter and straiter, hence surgeons usually employ such a *catheter* as *Mauriceau* has delineated^y. Here also it is necessary to consider, that the situation of the bladder may be greatly altered by the pressure of the tumefied *uterus*, so that the neck of the bladder may form a pretty acute angle with the *urethra*, which more especially happens when, in a very prominent pendulous situation of the belly, the whole bottom of the *uterus* lies forwards over the bones of the *pubis*, as hath

^w Liv. I. chap. 15. pag. 139.

^x Spach. gynæc. pag. 3. No. 34.

^y Livr. II. chap. 33. pag. 365.

hath been observed before in the preceding paragraph. In a case of this kind, a very ingenious artist in this way, formerly among the Dutch², very judiciously advises to make use of a crooked *catheter*, such as usually is employed for men; that is, in case the urine come not rightly away upon changing the situation: then he ordered the woman with child to lean forwards, with her knees separated pretty widely, and her head as low as possible; and with his two fingers introduced from behind into the *vagina*, he endeavoured to remove the *uterus* from the bones of the *pubis*, and introduced the crooked *catheter* in such a way as that the convex part of the *catheter* should look towards the *intestinum rectum*, and the concave side to the *os pubis*: if he found still a resistance, he continued to remove the *uterus* from the *os pubis*, and then the *catheter* entered the cavity of the bladder: but, as soon as he perceived the urine to flow out, he turned about the patient's body, and made her lie upon her back, but with her head still lower down; for in these last months of gestation the former troublesome situation cannot be long endured without hazard of fainting: at the same time he took care to raise up the *abdomen*, until all the urine was entirely passed: he left also the *catheter* in the bladder for two days together, that the bladder, having been immoderately distended, might by degrees contract, and recover its former strength and elasticity; for, unless this had been done, it would have been necessary next day to have the same operation frequently repeated, which must have been exceeding troublesome. He owns he had the greatest difficulty of all³, when, at the time of delivery, the neck of the bladder was so pressed by the child's head, that neither a drop of urine could get out, nor the *catheter* could by any means be introduced: then there was nothing else to be done but to break the waters; for thus the

size

² Denys over het Ampt der Vroet meesters, &c. cap. IV. pag. 128, & seq.

³ Ibid. pag. 138.

size of the *uterus* grew less, and the bladder then emptied itself. He recounts, at the same time, a pretty surprising case, where, after the rupture of the membranes, eight pints of water ran out, and there immediately followed a pretty plentiful discharge of urine.

In what manner a too astricted belly is to be relieved, and how the varicous swellings are to be bandaged, hath been shewn in the preceding paragraph.

The piles, if very painful, are to be soothed and fomented with emollient remedies: it is usual to make them sit upon a vessel filled with some warm emollient decoction, with the addition of warm milk, and to apply some softening liniment, several forms of which are to be found in the *Materia Medica*, classed under this head. But, in time of delivery, as the child's head presses and flattens the *intestinum rectum*, the piles swell sometimes so as to be ready to burst, and, by aggravating the labour-pains, cause the woman in labour, through fear of pain, to suppress her utmost efforts, and so retard the exclusion of the *fœtus*.

Should they be very much swelled then towards the end of gestation, it might be proper to empty them by means of leeches. Seeing however the blood, as it often happens in these kinds of swellings, grows thick and grumous, it were better, in that case, to open them with a lance: but, as the piles, after delivery, generally go down of themselves, opening is by no means to be attempted, without there be good reason to apprehend, that from their size and swelling they may retard the delivery.

S E C T. MCCCIII.

BUT a flooding, or flux of blood, from the uterine vessels, is reckoned amongst the most dangerous disorders incident to women with child. A

A flux of blood from the *uterus*, in women with child, is always to be suspected, though there may not always be a like degree of danger attending it, as shall afterward be shewn; but if it happen to flow suddenly, and in a full stream, then it is justly reckoned the most dangerous disorder that can befall a woman with child, and is no less hazardous to the young offspring contained within the womb. It has been already shewn that the gravid *uterus* is gradually distended, more and more, in order to contain the enlarged *fœtus*, with the secundines, and waters in which it swims: yet whilst it is thus distended, the thickness is no ways diminished; but its vessels are successively filled with blood in proportion as they are distended; whence the quantity of blood, contained within the substance of the *uterus*, must be very great. The human *ovum*, however, is in such a manner connected to the cavity of the *uterus*, that naturally not one drop of blood can pass out from that cavity; but as soon as this connexion is loosened, by any cause whatever, and particularly if the *placenta* should begin to separate, the blood, in that case, flows out from the dilated vessels, and frequently indeed so rapidly, and in so great quantity, that faintings and convulsions, from the sudden evacuation from the vessels, with death itself, may justly be apprehended. Certain destruction at the same time awaits the *fœtus*, as it can neither any longer receive the blood from the mother by the umbilical veins, nor convey its own blood to her by means of the umbilical artery, to be farther perfected in her body.

The erect posture of the body in walking, peculiar to females of the human species, and the custom of the menstrual blood's passing monthly from the uterine vessels, seem to be the causes why abortions happen more frequently with them than in brutes^b; as also on account of the vessels of the *uterus* and *placenta* being distended with so large a quantity of blood:

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for

for the *placenta* has a more early and firmer attachment to the *uterus*, and is of a much larger size, than that of brutes; otherwise abortions would be still more frequent than they are.

It is evident, at the same time, that a hæmorrhage from the *uterus* must be then more particularly dangerous, when the uterine vessels are in the highest degree of distension, that is, in the last weeks of gestation; whence the following rule is laid down as a certain practical maxim, *Quo partui propior est mulier eo periculosior est hæmorrhagia uterina*^c, “That the nearer a woman is to the time of her delivery so much more dangerous is a hæmorrhage or flooding from the *uterus*.” Hence very many of those escape, in whom a uterine hæmorrhage has happened in the second, third, or fourth months. Now it is in these months that abortions are chiefly observed to happen; very rarely in the months following. *Puzos*^d, a very eminent and experienced practitioner in midwifery, affirms that, in all his manifold experience, he had seldom observed any one carried off by a flooding before the fourth or fifth month of pregnancy, unless it was attended with some other dangerous disease, or that they had been destitute of the necessary assistance in these cases. He was apprehensive of much more fatal consequences, when the same happened in the seventh, eighth, or ninth month; for notwithstanding the hæmorrhage may not be so very violent before delivery as in other abortions, yet very many of these die soon after they are delivered.

It is not, however, to be supposed, that floodings, even in the first months, are altogether free from danger; for sometimes they return again after a few days, if either the secundines or grumous blood happen to remain within the *uterus*, after the exclusion

^c Mauriceau traité des malad. des femm. gross. Livr. I. chap. 21. Tom. I. pag. 159, & 535.

^d Académ. de chirurg. Tom. I. pag. 361.

sion of the *fœtus*. Such a case we read of a woman who miscarried in the third month, the *placenta* remaining within the *uterus*: at first it was attended with no very bad symptom, till eight days afterwards, when there came on so violent a hæmorrhage, that all who were present despaired of her life. A portion of the *placenta* happened to project without the orifice of the *uterus*, which being carefully laid hold on by a skilful hand, assisted by the revived efforts of the patient herself, the whole *placenta* soon came away entire; upon which the flooding immediately ceased, and the patient very soon recovered from this great and imminent danger.

The *placenta* of abortions are more difficult to bring away than those of a full ripe *fœtus*, because the umbilical cord is very tender, and more liable to break with the smallest force; and in younger *fœtuses* the *placenta* is proportionally larger, and occupies a larger surface in the *uterus*†.

Twice I have had occasion to see an acute, continued, and putrid fever, follow in consequence of grumous concremented blood remaining in the *uterus* after a three months abortion: one of these died in the fourth, the other was carried off on the seventeenth, day of the distemper.

A woman, the day after miscarriage, was seized with an ardent fever, attended with perpetual looseness and other bad symptoms: she died on the seventh days. In this patient, *Hippocrates* has not mentioned the time of her pregnancy; but, in another, he says^h that the fever had seized her after miscarriage, in the fifth month, with the same very bad symptoms, among which he recounts both the perpetual looseness,

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and

* Académ. de chirurg. Tom. I. pag. 360.

† Medic. essays, Tom. II. No. 11. pag. 239.

§ Hippocrat. epidem. 3. Ægrôt. X. Charter. Tom. IX. pag. 48.

^h Ibid. ægrôt. XI. pag. 250.

and thin blackish urine in small quantity; and that she died delirious on the seventh day.

Every body knows that abortion frequently is the consequence of a hæmorrhage from the *uterus*.

How dreadful, however, the event used to be when worthless women, by taking remedies to procure abortion, attempted to destroy the *fœtus* in their womb, may be seen in another place of *Hippocrates*ⁱ. *Cuidam, quæ circa vigesimum ætatis annum pharmacum abortum promovens potavit, dolor accidit biliosorum multorum, pallidorum & porraceorum, vomitus. Quum bibisset eam convulsio invadebat, & linguam mandebat. Quarto die ad eam accessi ipse; lingua erat magna, nigra; oculorum alba rubescebant; insomnis erat. Quarto die sub noctem mortua est.* “A certain young

“woman, says he, about twenty years of age, who
“had drunk a potion to procure abortion, was
“seized with pain, and a vomiting of pale and
“greenish coloured stuff: when she attempted to
“drink, she was taken with convulsion, and bit her
“tongue. The fourth day, when I visited her, her
“tongue was large and black; the whites of her
“eyes were grown red, and she was altogether restless.
“She died on the fourth day in the evening.

Hippocrates seems afterwards, on another occasion, to have recounted this history still a second time^k, but adds, that she had of her own accord taken this abortive medicine, thirty days after impregnation. At the same time we read she vomited up black-coloured stuff: the rest of the symptoms agree with the first account.

Ovid, that great master in love affairs, inveighs bitterly against this wicked practice^l.

———— *Sine crescere nata.*

Est pretium parvæ non leve vita moræ.

Vest

ⁱ *Epidem. V. textu 33. Charter. Tom. IX. pag. 345.*

^k *Epidemic. VII. ægrot. 82. Charter. Tom. IX. pag. 58.*

Ovid. amor. Lib. II. eleg. 14. pag. 329, 330.

*Vestra quid effoditis subjeētis viscera telis;
 Et nondum natis dira venena datis, &c.
 Hoc neque in Armeniis tigres fecere latebris;
 Perdere nec fœtus ausa læna suos.
 At teneræ faciunt, sed non impune puellæ.
 Sæpe, suos utero quæ necat, ipsa perit,
 Ipsa perit, ferturque toro resoluta capillos,
 Et clamant merito, qui modo cunque vident.*

“ Ah! let it grow for nature’s use mature:
 “ Ah! let it its full length of time endure.
 “ ’Twill of itself, alas! too soon decay,
 “ And quickly fall, like autumn leaves, away.
 “ Why barb’rously dost thou thy bowels tear,
 “ To kill the human load that quickens there?
 “ On venom’d drugs, why venture to destroy
 “ The pledge of pleasure past, the promis’d boy, &c.
 “ The tygresses, that hunt the Armenian wood,
 “ Will spare their proper young, tho’ pinch’d for food;
 “ Nor will the Lybian lyoneſſes slay
 “ Their whelps; but women are more fierce than they,
 “ More barb’rous to the tender fruit they bear,
 “ Nor nature’s call, tho’ loud she cries, will hear:
 “ But right’ous vengeance oft their crimes pursues,
 “ And they are lost themselves who would their chil-
 dren lose;
 “ The pois’nous drugs with mortal juices fill
 “ Their veins, and undesign’d themselves they kill:
 “ Themselves upon the bier are breathless borne,
 “ With hair ty’d up, which was in ringlets worn,
 “ Thro’ weeping crowds, that on their corpse attend:
 “ Well may they weep for their unhappy end.

OVID’S *Art of Love*, translated,

Let those therefore, at least, tremble for their own
 life, whom the crime of homicide, it seems, cannot
 terrify; for *Tertullian* has very well said ^m, *Etiam con-*
ceptum in utero, dum adhuc sanguis in hominem delibatur,

G g 3

dissolvere

^m Mauriceau, Lib. I. chap. 24. pag. 191.

dissolvere non licet: homicidii festinatio est, prohibere nasci; nec refert, natam quis eripiat animam, aut nascentem disturbet. Homo est & qui futurus est. “ It is
 “ by no means allowable to dissolve the *embryo* in the
 “ womb, even when the blood is yet hardly formed
 “ into a human creature: to prevent its generation
 “ and growth, is only a more early crime of homi-
 “ cide; nor is the difference very material, whether
 “ any one take away a life already perfect, or hinder
 “ it in its first formation: what would have been a
 “ human creature, must be considered, in this re-
 “ spect, as a human creature.”

From these also may appear the reason why *Hippocrates* ⁿ makes the following remark: *Quæ abortiunt magis periclitantur: abortiones enim graviores sunt, quam partus; non enim citra violentiam embryo corrumpitur, sive medicamento, sive potu, vel cibo, vel subdititiis, vel re alia quapiam. Violentia autem malum est: hoc enim casu periculum est, uteros ulcerari aut inflammari. Hoc autem est periculosum.* “ Those who suffer abor-
 “ tion are in more danger of their life: for abor-
 “ tions are far more hazardous and painful than
 “ mature and natural deliveries; because the *embryo*
 “ cannot be destroyed without great violence, whe-
 “ ther it is done by medicaments, particular meats
 “ or drinks, fumigations, or any thing else whatso-
 “ ever. But all violence is extremely hurtful and
 “ injurious: for in this case there is great danger of
 “ the *uterus* becoming either ulcerated or inflamed,
 “ This last indeed is very dangerous.”

Mauriceau has observed^o, that women with child are then more particularly in the greatest hazard and danger, when they suffer abortion during the time they happen to be thrown down in a continued fever,

ⁿ De mulier. morb. Lib. I. cap. 71. Charter. Tom. VII. pag. 771.

^o Ibid. pag. 196.

fever, which, for the most part, uses to be of the remitting kind; and most of all, if at the same time the breast be affected. Many he saw, with the utmost regret, perish in this manner, very soon after the miscarriage. This ingenious gentleman thought that *Hippocrates* had a regard to this in the following preface^p: *Si mulier in utero gerens morbum non cognatum (congenerem) habeat, in puerperii purgatione perit*: “If
 “ a woman with child is taken with any disorder,
 “ foreign and unfriendly to the state of pregnancy,
 “ she will certainly be carried off in the child-bed
 “ cleansing.” Perhaps there is still a greater congruity in another place^q, where he says, *Quæ utero gerentes a febris corripuntur, & vehementer citra manifestam causam extenuantur, pariunt difficulter & periculose, aut abortientes periclitantur*. “Women with child,
 “ who are seized with fevers, and fall away, growing
 “ exceeding thin without any manifest cause, either
 “ bear their children with the greatest difficulty and
 “ danger, or run the risque of their life from abortion.” With good reason therefore he prognosticates danger; but yet the destruction threatened is not always certain: I have recovered many women with child, who had been thrown down by acute diseases, and have known several also cured by others; nay, I remember to have had the care of a girl of fifteen years of age, who, from a stolen embrace, was at this time four months gone with child, and who suffered abortion in the very middle stage of the small-pox, whereof she had a very numerous load, and yet she very happily escaped the danger.

Nor is it the only apprehension we have to fear, lest a woman with child, through loss of blood, be carried off by a hæmorrhage, or flooding from the *uterus*; but likewise, should she even weather this so far, there is still great danger, from the great and sud-

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den

^p De nat. puer. Cap. V. Charter. Tom. V. pag. 315.

^q Apor. 55. sect. 5. Charter. Tom. IX. pag. 228.

den loss of blood, of her falling into very difficult chronic disorders, as a cachexy, § 1168, dropsy, § 1229, and several others. I saw a woman, who, after a violent hæmorrhage from the *uterus*, suffered frequent and long-continued faintings: notwithstanding also she had escaped beyond all expectation, and had brought forth a child at the proper time, which, however, proved very weakly, and lived only a few days, yet she could never rise from bed, without being immediately seized with a violent palpitation of the heart, attended with the greatest anxiety: for the space of twelve years, this miserable woman continued to be fixed in this manner to her bed, and, provided she lay at rest, her health was otherwise tolerably good. What seems very probable is, that in these long-continued and frequent faintings, the blood, stagnating in the heart and larger vessels, had gathered into polypous concretions, which immediately formed an obstacle to the venous blood, suddenly accelerated by the motion of the body.

We are also farther to consider, that after suffering abortion, if the secundines should remain behind, or the concremented blood be retained within the *uterus*, many troublesome disorders may from thence arise. *Hippocrates* has said^r, *Dolores ex iliis ad intestinum tenue transeuntes, in morbis longis, ex abortu, nequaquam valde purgata muliere, perniciosi sunt*: “Pains passing from the *ilia* towards the smaller intestine, in long continued diseases, and where a woman has not been rightly cleansed, are very pernicious in their consequence.” In this place he seems to mean the cleansing or purgation of the *uterus*, after abortion, from whatever is liable to be retained, and by means of the *lockia*.

From what has been said then, it is sufficiently well demonstrated, that a flux of blood from the *uterus* may be justly reckoned one of the most dangerous

^r Coac. præcept. No. 515. Charter. Tom. VIII. pag. 882.

gerous disorders which can happen to a woman with child.

S E C T. MCCCIV.

WHICH principally arises from this, that the *placenta* being loosened from the cavity of the *uterus*, whilst the arteries are fully distended with blood, and the *uterus* in the same condition, the blood therefore runs forth and gushes out frequently in a full stream.

Naturally the human *ovum*, by every part of its surface, adheres to the cavity of the *uterus*, which effectually hinders any thing from passing out by the uterine vessels; and even in time of delivery, when the *fœtus* has come away, hardly any, or at least very little blood follows, although the *chorion* may have been on all sides disjoined from the *uterus*, during the exclusion of the *fœtus*: but soon as the connexion of the *placenta* with the *uterus* is loosened, the blood then comes away in large quantity, and not before. During the time of pregnancy, as we have formerly had frequent occasion to mention, the vessels of the *uterus* are continually enlarging; consequently, when the time of delivery approaches, they become very large and capacious; so that when the *placenta* comes to be separated from the *uterus*, the wide orifices of the enlarged vessels must pour out the contained blood in a full uninterrupted stream. Therefore, when the blood in women with child comes away in a full stream, it may justly be taken for granted that the *placenta* is separated from the *uterus*, either wholly, or at least in part. But a flooding of this sort is far more dangerous, because in pregnancy the *uterus* continues to be filled up; whereas, after delivery, when the *placenta* is once brought

brought away, the empty *uterus* may then contract itself, and thus lessen the capacity of the vessels, and of course diminish the hæmorrhage or flooding. But as blood may issue out of the *vulva* of a woman with child, even without a separation of the *placenta*, so in the text our author judiciously asserts that a flux of blood from the *uterus* principally, or for the most part, only depends upon a separation of the *placenta* from the *uterus*: for there may be even other causes, though they are exceeding rarely to be met with. Thus *Mauriceau*^s remarks, that if a gravid *uterus* should happen to be slit up, or divided by any external violence, a vast uterine hæmorrhage may be the consequence, even although the *placenta* should continue entirely attached to the *uterus*. Such a mischievous disorder, though it may be suspected from a previous knowledge of the preceding violence as a cause, yet cannot be known for certain till after inspecting the body after death. But even then he imagined there could be no hopes of relief, however the delivery might spontaneously ensue, or be immediately procured by art, because the *uterus*, from the severity of the hurt, would find great difficulty in contracting itself: and on these occasions, where the injury was so great, a supervening inflammation of the *uterus* was always to be apprehended, which frequently, on other occasions, is observed to be so very mortal and dangerous.

It is a thing which yet far more rarely happens, and what *La Motte*^t had only once an opportunity of seeing, where a hæmorrhage from the *uterus* was occasioned by a rupture of the vessels contained in the umbilical cord. He was assisting at a labour, where he expected a natural and easy delivery. The waters were

^s Traité des malad. des femmes gross. Liv. I. Chap. 21. Tom. I. pag. 169.

^t Traité des accouchemens, Livr. III. chap. 8. observat. 211. pag. 296.

were formed; but just as they were ready to break, he observed his hand stained with a little blood, and, as it very often used to happen, he concluded that the child would soon follow. A little after, the waters were broke, and the child's head presented itself; but a good quantity of blood issued out at the same time, which was increased at every labour-pain. He was firmly persuaded, that the hæmorrhage must be occasioned by the loosening of the *placenta* from the *uterus*; nor could he now turn the child, in order to hasten the delivery, by extracting it by the feet, because the head was got down into the *pelvis*, and the woman's labour-throes were become too violent, and continued. The patient, however, being a woman of resolute courage, and not ignorant of the imminent danger, so forwarded the delivery, by her strenuous efforts, that in a very short time a girl was produced into the world, very weakly indeed, and round whose neck the umbilical cord having twisted itself three turns, had occasioned the delivery to be so tedious and difficult. The patient happily escaped, and was afterwards seven times brought to bed, without any bad accident whatsoever befalling her.

Soon as the infant came away, the flooding ceased entirely, and upon examining the umbilical cord, it appeared that one of the varicous knots, so often observed in the umbilical vein, having been opened, as it were by excoriation, had poured out the blood; which, from the mutual pressure and attrition of each circumvolution of the umbilical cord round the infant's neck, might very easily happen. It is at the same time very evident, that the true cause of this hæmorrhage could never have been known before a complete delivery; and while the membranes were already broke, this ingenious surgeon could scarcely have a suspicion of such a thing, as he had never seen any thing like it before, and the loosening of the *placenta* from the *uterus* had always been most frequently

frequently considered as the cause of a uterine hæmorrhage; with regard to which, the following *prognosis* of *Hippocrates* seems to have some affinity^u: *Si cui parturienti ante fœtum multus sanguinolentus citra dolorem fluxus prodeat, periculum est, ne fœtus mortuus exeat, aut minime vitalis edatur.* “If, in the case of a
 “ woman being in labour, a bloody flux shall come
 “ away before the *fœtus* in considerable quantity,
 “ there is danger, lest the child shall either come
 “ forth dead, or, when produced, shall have very little
 “ chance of living.” In the case just now mentioned, the flux of blood was increased during the labour-pains; but when the *placenta* is either entirely, or in part separated, the hæmorrhage, in that case, is rather increased during the intervals of the labour-pains; for *Hippocrates* expresses it by *ᾠδινοῦσθαι*, when the labour-pains are felt, and before the *fœtus*, whose exclusion is just at hand, and remarks that this happens without much pain; for in the very time of the labour-pains the child’s head filled up the dilated orifice of the *uterus*; on their remission, the pressure of the child’s head was in some measure taken off: hence there would be more room for the blood to run out. How far a *diagnosis* may be formed upon this circumstance, seems to be a question of some nicety; for if, during the labour-pains, the child’s head has not as yet come down so far as to fill up the orifice of the *uterus*, the uterine hæmorrhage may then be increased; also in the time of the labour-pains, which in that case cannot be distinguished from the effects of a separated *placenta*. In both cases the principal hopes of safety consist in this, that the *uterus* be emptied by as speedy a delivery as possible, that so it may have an opportunity of contracting itself, as we shall afterwards farther explain.

But seeing, as hath already been observed, that the human *ovum* is, through its whole surface, joined to the

^u De superfœtatione, cap. 5. Charter. Tom. VII. pag. 863.

the *uterus*, the blood perhaps may, in all likelihood, come away, when any part of the connexion between the *chorion* and *uterus* is loosened. In that particular place indeed, to which the *placenta* adheres, the blood-vessels are very large; but yet the other parts of the *chorion* are not wanting in considerable vessels. The ingenious *Noortwyk*, whom we have had so often occasion to mention with just commendation^w, when he threw in a waxen injection into a branch of the iliac artery of a gravid *uterus*, observed it penetrate very deep into the vessels of the *placenta* and *chorion*: upon lifting up the preparation, and attempting to separate the human *ovum* from the *uterus*, to which it was connected, he could discover plainly the *chorion* to be joined by means of the true genuine cellular substance of the *uterus*; which connexion, however, might easily be broken with the slightest force^x. But *eandem banc cellulosa separanti vasa occurrebant numerosa per totum ambitum, ex chorio in uterum porrecta, impleta. Accuratus examen docuit internam matricis superficiem poros habere mediocris magnitudinis, multos aliquantulum tamen ab invicem distantes (vasorum orificia); quibus proportionatæ dimensionis canales extra chorion emergentes, per dictam cellulosa progressi, inosculabantur, sic ut vas responderet vasi, & communis materiæ cylindrus utrumque impleret. Vasa hæc alia majora, alia minora; erant in universum talia, ut tenuiorem, crassioresve, aciculam, quædam etiam caput aciculæ maximæ facile admisissent. Rursus nonnulla recto tramite uterum subibant, nonnulla, postquam brevi prius spatium juxta uteri superficiem reflexa processerant: erantque ultima hæc non rotunda, sed compressa quasi & complanata. Omnium etiam memoratorum vasorum cum matrice unio levissima vi solvebatur.* “ In separating this same cellular substance, “ all over the whole external round there were a vast “ number of blood-vessels presented themselves, which “ seemed to be very well filled, and coming out “ from

^w Uter. human. gravid. anat. pag. 11. ^x Ibid. pag. 9.

“ from the *chorion*, were inserted into the *uterus*.
 “ Upon a more accurate examination, the internal
 “ surface of the womb was found to have a vast
 “ quantity of pores (orifices of vessels) of a mid-
 “ ling size, at some little distance from each other;
 “ with which the canal, of the same dimensions,
 “ which passed out from the *chorion*, through the
 “ aforesaid cellular substance, inosculated so, as vessel
 “ corresponded exactly to vessel, plainly shewing one
 “ cylinder of injection had filled them both in com-
 “ mon. Some of these vessels were larger, others less;
 “ in general their sizes were such, as to admit of the
 “ larger or lesser sized pins, and some even could
 “ take in the head of the largest pin: again, some
 “ went strait into the *uterus*, others not, until
 “ they had been reflected a little way on the surface:
 “ these last too were not entirely round, but some-
 “ what compressed, and, as it were, flattened. The
 “ union, likewise, of all the above-mentioned vessels
 “ with the *uterus*, was easily broke with the smallest
 “ force.” I chose to give the author’s own words, in
 describing these observations and experiments, to all
 which I had the pleasure and satisfaction of being my-
 self an eye-witness.

In this manner he observed the *ovum* to adhere to
 the womb in general; but about the *placenta* this
 connexion was somewhat stronger, and the vessels at
 this place more numerous, *quibus extra placentam*
emergentibus, atque in uterinos poros insertis manifesta
oculis communicatio patebat inter uteri & placentæ vasa;
& hæc iterum variam diametram monstrabant, in genere
non multum ampliora quam quæ circa chorion descripta
pariterque tenerrima: “ which coming out from the
 “ exterior surface of the *placenta*, and being inserted
 “ in the uterine pores, there appeared to the naked
 “ eyes a plain communication between the vessels of
 “ the *uterus* and *placenta*; and these, in like manner,
 “ were of different diameters, in general not much
 “ larger

“ larger than those described about the *chorion*, and
 “ like them extremely tender ^y.”

From all these, one would be apt to imagine that we had no more reason to apprehend a profuse hæmorrhage, from a disjunction of the *placenta* from the *uterus*, than when any part of the *chorion* was separated from the same. But *ad radicem placentæ, ubi hæc per orbem supra chorion terminatur, cellulosa illa in ligamentosas lacinias collecta nexum denuo parum firmiorem exhibebat; hic vasa copiosissima, capacissima, adeo insignia, ut eorum quædam digitum pueri potuissent recipere; veri venosi sinus, mollissimis tenuissimisque tunicis conflati, breves; ex quibus mox rami intra placentam immergebantur longe minores, magna parte admodum exiles: quod patuit, dum sinus tales excussa, quam continebant, materie, introspiceret postea. Rami hi ex fundo sinuum, quæ placentæ innascebantur, procedebant ea utcunque ratione, uti vena cava, hepatis innata, intra hujus substantiam ramos dimittit ^z; “ at the root of the placenta, where
 “ it terminates in a circle above the chorion, this cellular substance, gathered up into ligamentous folds,
 “ presents again to the view somewhat of a firmer
 “ kind of connexion: here the vessels are so remarkably numerous and large, that some of them
 “ can admit a child’s finger, appearing like short
 “ venous sinuses, made up of very soft and thin
 “ coats, from which very small, and for the most
 “ part very slender branches are immediately sunk
 “ into the substance of the placenta, which plainly
 “ appeared, upon looking into the sinuses, after the
 “ matter, with which they were filled, had been taken
 “ out. The branches, implanted in the placenta, from
 “ the bottom of these sinuses, run pretty much in the
 “ same manner as the vena cava, inserted in the
 “ liver, sends off its branches through the substance
 “ of that viscus.” From thence, at the same time, appears the reason why a profuse hæmorrhage may follow,*

^y Uter. human. gravid. anat. pag. 10.

^z Ibid.

follow, notwithstanding most part of the *placenta* shall, as yet, adhere firmly to the *uterus*, if only that orbicular edge should begin to separate, where the largest vessels are, which in thinness exceed that of a spider's web, and so soft and tender, as hardly to be touched without bleeding; whence it is no wonder, if in the secundines, brought away by the hands of the midwife, either by collapsing they disappear, or are entirely defaced in handling^a.

There can be then no farther doubt of the immediate communication between the vessels of the *uterus* and those of the *ovum*, seeing the *ovum* is joined all round to the *uterus* by means of its vessels, so that a direct communication of the most remarkable uterine arteries, with the vessels of the *ovum*, may be plainly demonstrated. By these vessels the mother's blood is directly brought to the *chorion*, and from this blood the liquor of the *amnios* seems to be separated, which surrounds the *fœtus* on all sides; for *Levret*^b has observed, that when a woman with child, in a *lues venerea*, has made so much use of mercurial frictions, as even, at the same time, to cure the *fœtus* of this ugly disorder, the water contained in the *amnios* has then given manifest proofs of mercury; for in this case it contracts a leaden colour, and when rubbed upon red copper turns it white, and so much the more so in proportion to the quantity of mercury which had been used in this way by the mother.

From what has been said we may likewise understand, I think, why, in the time of delivery, a small quantity of blood is observed when the waters are formed, as the midwives use to say, and greatly dilating the orifice of the *uterus*, appear without it a good way. Now this is very justly reckoned as a pretty certain sign of a speedy delivery; for the membranes

^a Uter. human. gravid. anat. pag. 11.

^b L'art des accouchem. No. 265, 266. pag. 43, 44.

branes cannot possibly project out so far, but many of those vessels, which serve to connect the *chorion* to the *uterus*, must be broken, and so pour out that small quantity of blood, with which the sheets and midwives hands are tinged. Nor can a very great quantity of blood at this time come away, because, when these very slender vessels are broke through, they immediately collapse, and the swelling of the waters fills up the orifice of the *uterus* entirely: the waters being broke, the infant's head immediately succeeds, and fills up the same orifice. This, indeed, used to be attributed to the violent dilatation of the mouth of the womb, by which it was more or less dilacerated; but so great a dilaceration as to break the blood-vessels does not always happen, and if it did, it ought, more especially, to be at the time when the child's head has passed through; and yet it is very evident, that something of that bloody matter is more frequently observed before the waters are broke, which, gradually swelling, dilate by degrees the smooth yielding orifice of the *uterus*. Whence the first-mentioned cause seems, by much, the most probable.

But what has been said, with regard to the connexion of the *ovum* with the *uterus*, by means of their vessels, is also confirmed by the observations of other eminent men. Thus the celebrated *Simson*^c affirms, that having occasion to examine the body of a woman, who died in the seventh month of her pregnancy, *dum separabat placentam, protraherebat ejus processus, longitudine medii pollicis ad minimum, erant autem numero multi, ex tota placentæ superficie surgentes; quidam ex illis calamum anserinum æquabant crassitie; imo ex omni chorii ambitu surgebant filamenta fibrosa, capillareæ tenuitatis, quæ penetrabant in poros uterinos. Dum autem extraherebat illos placentæ processus (frangebantur)*

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^c An inquiry, how far the vital and animal actions, &c. in *Præfat.* pag. 9.

tur) statimque contrahabatur, & referebant granulatam superficiem mori arboris fructus; “in separating the
 “*placenta*, he drew out its processes to the length, at
 “least, of the middle finger: they rose also in great
 “numbers from the whole surface of the *placenta*;
 “some of them were of the size of a goose quill:
 “even from the whole circumference of the *chorion*
 “there arose fibrous sorts of filaments, small as
 “hairs, which were inserted into the uterine pores.
 “But when these processes of the *placenta* were
 “drawn out (till they broke) they immediately contracted themselves, and put on the granulated
 “appearance of a mulberry.” The celebrated *Albinus* also^d had occasion to observe certain twisted arteries, not branching out in the common way, in that part of a gravid *uterus*, to which the *placenta* is connected, where they were to be seen in great abundance: they seemed to be ruptured however, owing to the *placenta*’s having been separated from the *uterus*. He looked for the same vessels afterwards in another gravid *uterus*, where the *placenta* was firmly attached, and then he found the very same filled with blood, and inserted into the *placenta*: whence there could be no doubt, but they really belonged to the *placenta*, and that they threw their blood into the same. It must likewise be observed, *data opera nihil mutaverat neque premendo, neque inflando, neque replendo, aliove modo*, “that care was taken nothing should
 “be changed, neither by pressing and squeezing,
 “nor by blowing nor filling them, nor by any other
 “method whatever;” and therefore every thing appeared in its natural situation and connexion. Those accurate tables of the gravid *uterus*, published by that excellent and very eminent anatomist, on this occasion, highly deserve to be looked into and consulted.

It

^d Academ. annot. Lib. I. cap. 5. pag. 34. & seq.

It is therefore very certain, that there is a correspondence and communication between the *uterus* and *ovum*, by means of the vessels, and that these being ruptured, from whatever cause, there may follow a uterine hæmorrhage, which will be far more profuse if the circular part of the *placenta* shall happen to be loosened in its connexion with the *uterus*; for at this place the vessels, which come from the *uterus* into the *placenta*, are very large and numerous. But it is also very possible that even these vessels which go from the *uterus* into the *placenta* may be ruptured, and yet no blood be observed to come from the *uterus*. This the celebrated *Albinus* has remarked, and describes in the following manner°. *Parturienti illi, cujus uterum aliquot tabulis persecutus sum, placenta abscesserat multo sanguine interjecto coagulato inter eam & uterum. Tota autem marginis circumferentia nihil quidquam abscesserat, eoque, ne sanguis proflueret prohibebatur.* “ The *placenta* “ of that woman in labour, whose *uterus* I followed “ in some of my engraved tables, had partly separated “ from the *uterus*, a considerable quantity of coagulated blood being interposed between it and the *uterus*; but thro’ the whole circumference of its circular edge nothing had as yet appeared like a separation, which very effectually hindered the blood “ from getting out by that quarter.” In such a case, however, the danger is, lest the blood, flowing from the ruptured vessels between the *placenta* and *uterus*, accumulating there, shall at length loosen the connexion between the exterior and circular edge of the *placenta* with the *uterus*, and by that means bring on a very profuse hæmorrhage, as hath been before observed at § 1296. *Placenta enim utero non insinuata per ultimas capillares vasorum suorum extremitates*†. “ For the *placenta* is not insinuated into the *uterus* by means of the finest capillary “ branches of its vessels.” This is prevented by

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that

° Ibid. pag. 36.

† Noortwyck de utero gravido, pag. 14.

that genuine membrane extended not only over all the convex surface of the *placenta*, which touches the *uterus*, but also, entering the furrows of the *placenta*, insinuates itself much in the same way as the *pia mater* in the furrows of the brain: nor can this membrane be produced from the blood gathering upon the convex surface of the *placenta*; for we find the very same in the most recent *placenta* taken as yet warm and smoking from the mother.

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THIS is known to be the case from the orifice of the *uterus* being loosened, from the blood issuing out in a large and rapid stream, greatly impairing the strength, and, whether coming fresh or in grumous clots, occasioning a great deal of pain.

Seeing this disorder is so very dangerous to women with child, it will be worth while, not only to know the signs when a flooding is already come, but even when we shall have reason to apprehend its coming.

It is however to be observed, that every hæmorrhage of the *uterus* is not equally dangerous, and that blood sometimes issues out from the *vulva*, which does not proceed from the *uterus*. All who have wrote concerning the diseases of women with child, take notice, that with some particular women it is customary to evacuate a small quantity of blood in the first months of pregnancy, and at the accustomed similar periods indeed in which they used to have their *menstrua* when they were not with child. This has been the case with some even till the fourth month of gestation. *Mauriceau*^h knew a woman whose menstrual flux, when she was with child, returned

^g Noortwyck de utero gravido, pag. 21.

^h Traité des malad. des femm. gross. Livr. I. chap. 20. pag. 155.

returned at the usual period till the sixth month, but in a smaller quantity indeed, and brought forth her children in due time, and all very healthy; five of which were at that time living. Nor was he at all apprehensive of any danger, if the blood came away only in a small quantity, without pain, and at a stated period, provided the orifice of the *uterus* at the same time continued to be shut: for then it is pretty certain, that the blood does not flow from the cavity of the *uterus*, but from the vessels distributed about the *vagina*, and the external surface of the neck of the womb. This has already been taken notice of in a former chapter, when treating of the menstrual flux. It is a very good remark of the celebrated *Hoffman*ⁱ: *Sæpissime fit ut, quæ sanguine abundant fæminæ, secundo & tertio graviditatis mense sanguineum experiantur fluxum, citra dolores & spasmos in regione lumbari & abdomine, citra debilitatem & præcedentem horrorem, aut rigorem partium extremarum: hoc autem in casu sanguis non ex uteri cavitate, sed potius ex vasculis vaginæ uterinæ cum euphoria profluit.* “It very often happens, says he, “that women who are full of blood, in the second “and third month of their pregnancy, experience “a flux of blood, accompanied with no pains, or “spasms, in the lumbar, or abdominal regions, and “without any kind of weakness, or preceding shivering or stiffness in the extreme parts; for in this “case the blood does not flow out from the cavity of “the *uterus*, but proceeds rather in a salutary manner from the little vessels on the neck of the *uterus* and *vagina*.”

However, notwithstanding, from certain observations, it appears that such a slight hæmorrhage may happen without any harm, and though it seems very probable that the superfluous blood, which remains over and above filling the enlarged vessels of the

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uterus,

ⁱ Medic. ration. & system. Tom. IV. part. 9. cap. 623.

uterus, and the nourishment of the *fœtus*, is then only evacuated; yet *Mauriceau*^k thought it much safer to take off the *plethora* by bleeding, than to commit the whole of this affair to nature. *Hippocrates* we know has declared as follows^l. *Mulieri fœtum bimestrem aut trimestrem, utero gerenti, si menses quamprimum singulis mensibus prodeunt, eam, tum tenuem tum debilem, reddi necesse esse. Interdum etiam his diebus, quamdiu menses prodierint, febris corripit. Quumque fluunt & ubi effluerunt, pallescit, quantumvis parce fluunt.* “ If
 “ a woman, who is gone two or three months with
 “ child, shall have her *menses* early and punctually
 “ every month, the *fœtus* must necessarily by this be
 “ rendered both puny and weakly. Sometimes also,
 “ in these days wherein her *menses* come away, she
 “ is seized with a fever; and, both when they flow,
 “ and when the flux is over, she is very pale-coloured,
 “ however sparingly she may have menstruated.” It
 appears very evident, from this text, that he speaks not
 here of a woman with child, of a plethoric, or full
 habit of body, but of one who is ready to grow pale on
 losing the smallest quantity of blood; and certainly
 it must in this case prove very hurtful, because here
 the superfluous blood is not taken away, but that
 which is absolutely necessary rather diminished; and
 therefore such a hæmorrhage must be very prejudi-
 cial to both mother and child. Besides, from what
 follows it manifestly appears, that he speaks of the
 blood which comes from the *uterus* itself. *His uteri
 plus æquo debiscunt, & incrementum fœtus dimittunt:*
 “ In these the *uterus* opens itself more than is pro-
 “ per, and lets out what should serve for the growth
 “ of the *fœtus*.” And a little after: *Si autem uteri
 plus æquo debiscant, sanguinem singulis mensibus, sicut
 prodire consuevit, effluere sinunt, & quod uteris contine-*
tur,

^k In the place just now cited, p. 157.

^l De mulier. morb. Lib. I. cap. 23. Charter. Tom. VII.
 pag. 744.

tur, tenue & debile fit. “ But if the *uterus* open it-
“ self too much, the blood is allowed to flow as it
“ used to do every month, and what is contained in
“ the *uterus* becomes wasted and weakly.” And in
this sense it appears that aphorism of *Hippocrates* is
to be understood, where he says ^m, *Si mulieri utero*
gerenti purgationes prodeunt, impossibile fœtum sanum
esse, “ If in a woman with child the menstrual pur-
“ gation come away, it is impossible the *fœtus* can be
“ strong and wholesome.” But *Galen* ⁿ, in his
commentary on this place, very ingeniously ob-
serves, that seeing that *purgationes* are mentioned, in
the plural number, and the verb *prodeunt*, come away,
joined to it, he does not mean here the excretion of
a little for once or so, but that which comes away
frequently and in considerable quantity: *Qui namque*
semel, aut bis, paucus excernitur (sanguis), in multis
citra ullam fœtus læsionem conspicitur: “ For that blood,
“ which is for once or twice excreted, is but in
“ small quantity, and in many is observed never to
“ be the least injurious to the *fœtus*.” Then he
adds what follows: *At excretio, quæ gravidis accidit,*
ex cervicis uteri venis fieri videtur; nam interne in ipso
cavo uteri suspenditur chorion; quare nihil per illa in
muliebrem sinum excerni potest: “ But this excretion
“ of blood, which happens to women with child,
“ seems to come from the veins in the neck of the
“ *uterus*; for internally, in the uterine cavity itself,
“ the *chorion* is suspended or attached on all sides;
“ for which reason nothing can get out from thence
“ into the *vagina*, or *vulva*.” It is evident, at the
same time, that there can be no better way of un-
derstanding the aphorisms of *Hippocrates* than by il-
lustrating them by similar and parallel passages of the
same author.

The *diagnosis* then of a dangerous hæmorrhage,

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or

^m 60. Sect. V. Charter. Tom. IX. pag. 252.

ⁿ Ibidem.

or flooding, is taken from the largeness of the quantity, pains about the loins and belly, (which, however, frequently happen also to women when menstruating;) and sometimes there is only a small quantity appears at first, which is presently followed by a vast hæmorrhage from the *uterus*, in proportion as the *placenta* separates, more and more, from the *uterus*, or as the number of vessels, which connect the *chorion* to the *uterus*, are broke through. But the principal sign is, when the orifice of the *uterus* is loosened, and stands widely open; for naturally, in women with child, the lips meet so close as to be almost shut up entirely, whilst the little chink which remains is filled up with a mucous glewy kind of matter. There can remain no doubt whatever, if the blood come away in a full stream, or if grumous clots of blood are passed, with pains in the loins and belly followed by great weakness and debility, but these clots of blood are either concreted in the *uterus* itself, when the blood poured out from the ruptured vessels stagnates for some time before that part of the connexion of the *chorion* with the *uterus*, towards its orifice, is yet loosened, so as to let the blood pass out freely, and in a fluid state; or these clots may also be coagulated in the *vagina*, when women endeavour to stop the efflux of blood by holding their thighs close together. Such lumps of coagulated blood are usually taken in this case, by the ignorant women then present, for a mole or false conception, as they may acquire a pretty large size in the *vagina*, but cannot within the cavity of the *uterus*, which is closely filled up already with the *fætus* and its secundines.

But when once so profuse a hæmorrhage from the *uterus* is already come, our knowledge is then too late; for abortion, for the most part, is the immediate consequence: wherefore it would be also of great advantage to know these signs likewise, by which we
may

may foresee a hæmorrhage at a distance, and when it is likely to happen, in order that we may prevent it, for instance, by proper remedies.

It is of itself sufficiently evident, that this disorder may then be justly apprehended, if the causes, from which it is most frequently observed to arise, shall have already gone before. As to them we shall speak more fully in a following paragraph.

As to that natural correspondence which there is between the breast and *uterus*, we have had already frequent occasion to mention. Whilst the vessels of the *uterus* are filled more largely towards the first period of menstruation, the breast becomes also more turgid and full; in women with child, in proportion as the *uterus* increases, the breasts swell up. Therefore *Hippocrates* has said °, *Mulieri utero gerenti, si mammae derepente extenuentur, ipsa abortit*, “ In a “ woman with child, if the breasts grow small of a “ sudden, she certainly miscarries.” For the danger is, lest, on this occasion, the vessels of the *uterus* breaking their connexion with the *placenta* and *chorion*, in like manner, collapse, which can scarcely happen without their being first emptied; and therefore in this case we have good reason to fear abortion, accompanied with a hæmorrhage from the *uterus*. *Hippocrates*, from experience, frequently confirms this *prognosis*. In the aphorism following he affirms the same, that if a woman shall be with child of twins, and one of her breasts become thin and small, in that case she will lose one of her twins by abortion. But seeing, as we before observed, the antient physicians imagined the human *uterus* had two cavities, of which the right contained males, and the left females, hence *Hippocrates* believed, that the sex of the future abortion could be determined, according as the right or left breast happened to be extenuated. But in another place also he forms a presage concerning the state of the *fetus in utero* from the condition of the breasts.

° Aphor. XXXVII. sect. 5. Charter. Tom. IX. pag. 217.

breasts ^p. *Mulieri utero gerenti, si lac copiosum e mammis effluat, fœtum imbecillum significat; quod si solidæ mæ fuerint, saniozem fœtum significat.* “ In a woman
 “ with child, if the milk run out of her breast in
 “ great quantity, it betokens a weakly fœtus; but,
 “ if her breasts remain firm and solid, it is a sign of a
 “ sounder, wholesome fœtus.”

However, notwithstanding *Hippocrates* held the sudden extenuation of the breasts as a certain sign of a future abortion, yet he seems not to have laid aside all hopes of preserving the fœtus, even when the breasts were extenuated. For he says ^q, *Quæ fœtus corrupturæ sunt, iis mæ extenuantur: quod si iterum duræ evaserint, dolor erit, aut in mammis, aut in coxis, aut in oculis, aut in genibus; neque (fœtum) corrumpunt.* “ In those who are likely to destroy
 “ their fœtus, the breasts are shrivelled and extenu-
 “ ated: but, if they should again grow firm, there
 “ will a pain arise, either in the breasts, or in the
 “ haunches, or in the eyes, or knees; nor will the
 “ fœtus be destroyed.”

Therefore it seems, that unless the breasts go suddenly down, there is still some hope of a cure, notwithstanding they may be even extenuated.

Hippocrates held a pain in the belly and loins to be, in like manner, a sign of abortion ^r. *Si mulier utero gerens ventrem & lumbos doleat, metuendum est, ne abortione fœtum excludat, ruptis membranis eam continentibus.* “ If a woman with child shall complain of a
 “ pain in her belly and loins, there is great reason
 “ to fear lest she part with the fœtus by abortion,
 “ on account of the membranes being ruptured which
 “ contain it.” In women with child, unless it be very near the time of delivery, pains of the loins, when they

^p Ibid. aphor. 52. Charter. Tom. pag. 225.

^q Ibid. aphor. 53. pag. 226.

^r De mulier. morb. Lib. I. cap. 25. Charter. Tom. VII. pag.

they continue long, are always to be suspected; especially if they return by intervals, and terminate towards the lower parts of the belly; for then they are real labour-pains, by which the *fœtus*, however unripe, must be excluded, and the miscarriage is frequently preceded by a very dangerous hæmorrhage from the *uterus*.

Again, there is a circumstance also, which we must be principally attentive to, and that is, the hæmorrhage from the *uterus*, notwithstanding it may appear to have entirely ceased, is very liable to return: for as the ingenious *Puzos*, eminent for his skill and experience in this art, very well observes^s, that part of the *placenta*, which being separated was the cause of the hæmorrhage, does not seem as if it could easily be attached again to the *uterus*, so as to adhere with the same firmness as before; but what stops the hæmorrhage at this time seems rather to be the coagulated blood applied to the gaping orifices of the vessels, so as to accommodate itself to their diameters, and block up the blood from running out. These clots dropping off afterwards, the hæmorrhage of the *uterus* returns, and, for the most part, more profusely and in larger quantity. Whence it is evident, what strict and continued caution is necessary to be observed with regard to women with child, who have once had the unhappiness to experience this misfortune.

S E C T. MCCCVI.

WHAT occasions this disorder are violent affections, or passions, of the mind; too violent motions of the body; the injudicious application of hysterical medicines, and such as provoke the terms; or blows received upon the lower part of the *abdomen*.

The

^s Academ. de chirurg. Tom. I. pag. 362, 363.

The causes, from which hæmorrhages of the *uterus* are observed to happen, are very various; for some are of such a nature, as may easily occasion it to the wholesomest and strongest sort of women: such, for instance, are a violent blow upon the belly, or any strong and violent fit of passion: others again, not so hurtful to many, are yet to some, pregnant women, very dangerous, as being more disposed and liable to floodings from the *uterus* and abortions. And then the peculiar disposition of the *uterus* itself may be also justly reckoned among the causes; and the *fœtus* too may be considered as having a share in the same. All which deserve a particular consideration, the better to discover how far art can go in this case, and what sort of remedy may be proper for each.

Violent affections of the mind.] How surprising and sudden the changes are, occasioned in the human body, by violent affections and passions of the mind, hath been already very often mentioned (see § 104, 611, 1062, 1093, 1181, 1200.) therefore they need not again be here repeated. It will be sufficient to observe in this place, that by sudden fear all the vessels of the body are contracted; by anger all the humours are rarified, and the vessels become full and turgid. The greatest general has, through extreme grief, dropped down dead of a sudden, who, a little before, had with great intrepidity and unconcern looked a thousand mortal dangers in the face: the Spartan mother, through excess of sudden joy, on seeing her son returned, whom she had imagined to be killed in the field of battle, expired in his very filial embraces. If then it is considered how emotions so sudden, and shocks so violent, may affect the tender vessels which serve to connect the *chorion* and *placenta* with the *uterus*, no one need to wonder, why in women with child a hæmorrhage from the *uterus* should be so often the consequence of some violent affection of the mind. A woman abouty thirty years of age, of a strong
 4 make

make of body, and pretty tall, was constantly employed in the market-place, where she was accustomed to be engaged in daily quarrels, and to indulge herself pretty constantly in scolding, and fits of anger: being with child, and very near the end of her reckoning, she was suddenly provoked into a violent fit of rage, at a woman in the neighbourhood, for striking a boy of five years of age belonging to herself: presently perceiving something unusually painful in her body, she said by way of presage, it must certainly be the cause of her death. Some days afterwards there followed, all of a sudden, a most profuse hæmorrhage from the *uterus*, whence she was carried off in convulsions before any thing could be attempted in order to save her: when the body came to be opened, two male fœtuses were found covered all over with coagulated blood, with which the *uterus* was likewise filled, plainly occasioned by a rupture of its vessels, and those of the *placenta* [†].

The same ingenious author recounts several other cases, which serve to shew how injurious violent affections of the mind may prove to a woman with child. Many I myself have seen; nor is there a physician, perhaps, who has not had frequent occasion to observe the same; but this particular case I selected on purpose to shew, as it happened to a hale strong woman, accustomed to daily squabbles and habitual anger, what mischief this sudden fit of rage could produce. The same may be apprehended from sudden grief, joy, &c. numerous instances of which are to be met with in the medical histories. Hence women with child may learn how much they ought to guard against all strong affections of the mind; as also others, who may have occasion to be near them, what care they ought to take, not to irritate, or surprise, women with child with any sudden news, good or bad, which may sensibly affect them.

I knew

[†] *Peu pratique des accouchemens. Liv. I. chap. 8. pag. 70.*

I knew a woman with child, who had enjoyed a very quiet and sound sleep all the time there was a dangerous fire in the neighbourhood: her officious and anxious mother, running up early while her daughter was in bed, congratulated her on her sleeping so sound, and by that means escaping the terror she must have been in: the poor woman on hearing it began to be taken with a trembling all over her body, and to be very miserably afflicted: at the same time the whole bed was immediately drenched with blood, and faintings and convulsions soon followed.

However she recovered from this dangerous uterine hæmorrhage; but she lost the *fœtus*, which was four months old, by abortion.

Too violent motion of the body.] This is a pretty frequent cause of the hæmorrhage from the *uterus*, and of abortion, which women with child, however, may easily prevent if they please. A moderate exercise of the body is of service in time of pregnancy, particularly walking: nay, we see women in the country, when with child, perform all their usual work with ease, provided they do not fatigue themselves too much, or strain their bodies violently in performing it.

It is very well known, that by muscular motion the current of venous blood, moving towards the heart, is accelerated, which of course increases the quickness of circulation through all the vessels of the body (§ 99.) But among the effects of a quicker circulation (§ 100.) the following were also enumerated: to wit, a stronger impulse of the blood thrown into the vessels, a violent mutual attrition between that fluid and the vessels, a greater degree of heat, a greater disposition of the humours towards acrimony. Now, if we consider these effects, along with the tender structure of the vessels which connect the *chorion* and *placenta* to the *uterus*, it will at once plainly appear, that a rupture of the vessels,
from

from too violent a motion of the body, may readily be apprehended, the consequence of which will be a hæmorrhage, or flux of blood from the *uterus*.

Hence it appears, to how much danger pregnant women expose themselves, while they indulge their fancy in leading down a dance, or undertaking a journey, or making any violent effort, lifting too great a weight, &c. The jolting alone of a carriage, especially when driven swiftly along a rugged way, is frequently sufficient to occasion a hæmorrhage from the *uterus*, and likewise abortion. Whence we see how dangerous the advice is, which some give to women with child, to be driven in a carriage in the last month of gestation, with the intention, forsooth, that by these joltings the child may sooner come downwards, and, by that means, the delivery be rendered easier and more successful. I have seen some women, who have laughed at this cautious and prudent admonition, when they have felt no bad effects presently after these violent joltings; but some of these in a few hours after, and others in a day or two, have experienced a very dangerous hæmorrhage from the *uterus*.

Mauriceau^u, with great sorrow and regret, mentions an accident of this very sort, which happened to his own sister, who, in the last month of her pregnancy, falling down on her knees, threw herself forward upon the ground, and hurt her belly, and, for a day or two, perceiving little uneasiness from it, she neglected to give her body the necessary rest; but, on the third day, all at once, she was seized with violent pains in her belly, and a very profuse hæmorrhage immediately succeeded, in which she was carried off; for some of those vessels, which connect the *chorion* with the *uterus*, having been ruptured, the blood poured out by degrees, and collecting still
more

^u *Traité des malad. des femmes gross. Liv. I. chap. 21. pag. 162.*

more and more, had separated the *chorion* gradually from the *uterus*, till very many of these vessels being at last ruptured, the blood had then liberty to run out from thence in a full stream.

It is a thing but too well known, that worthless women, in order to destroy the *fœtus*, employ very violent motions of the body. *Hippocrates*^w had ordered a singing girl, who happened to conceive, *ut in terram desiliret*; *quum jam septies exsiliisset, genitura in terram defluxit*; *Et fiebat sonitus*, “to take a pretty high leap down to the ground; which when she had done seven times, the conception dropped from her upon the earth, with a considerable explosive fort of noise.” Then he describes the human *ovum*, with its membrane, containing a pellucid liquor. *In membrana autem fibræ albæ Et tenues inesse videbantur, cum ichore crasso, Et rubro obvolutæ*. “But the membrane seemed to be made up of white and slender fibres, covered over with a thickish red-coloured *ichor*.” And about the membrane, *exterius sugillationes*, “externally there were livid spots.” In the lesser abortions, which come away with their membranes entire, the whole *chorion* appears rough, with filaments, which are the rudiments of the *placenta*; but these bloody spots, like the marks of bruises, and the thick reddish *ichor*, which involved those white slender fibres, seem to declare that the *ovum* had been already joined to the *uterus*. But whether she was only six days conceived, seems to be very doubtful, seeing the *ovum*, at that time of conception, is not perhaps as yet connected to the *uterus*, nor the uterine vessels so much dilated, as to pour out red blood. *Hippocrates*, however, relates^x, that this singing girl had been very conversant with the men, and that she had heard from certain silly ignorant women, that when any one really conceives, the conception

^w De natur. pueri, cap. 2. Charter. Tom. V. pag. 312.

^x Ibid. pag. 11.

ception remained always within, and never came away. Hence it could very easily happen that she might have been longer conceived, especially as the conception, which dropped from her, after the seventh leap, was compared to a raw egg stripped of its outer shell.

But how this advice of *Hippocrates* is to be reconciled with his oath, which forbids physicians even to administer an abortive pessary to any woman with child, does not so easily appear. Some will have it, that this book, *de natura pueri*, was not written by *Hippocrates*, but by *Polybus*; others again, that what was thrown off in this manner was only a conception, and not a formed *embryo*. Concerning this affair, see *Meibomius* ^v. Certainly *Tertullian*, in his *Apologetic*, has very well said, *Nobis, homicidio semel interdicto, etiam conceptum uteri, dum adhuc sanguis in hominem delibatur, dissolvere non licet*. “For homicide being
“ once forbidden, it is not lawful for us to destroy
“ the conception of the womb, even though the
“ blood should not have as yet acquired the least
“ rudiments of a human creature.”

In general then it may be laid down as pretty certain, that violent shocks to the body, when women are with child, are always suspected of danger, and therefore to be carefully avoided. In the mean time however there happen, from such causes, shocks of this kind, which it is not always in their power to avoid. Thus I have seen a hæmorrhage from the *uterus*, occasioned by violent and frequent fits of sneezing in the beginning of a *coryza*, or running at the nose.

Whence, at the time when catarrhs prevail epidemically, women with child ought to be advised, whenever they perceive the slightest running at the nose, to foment the nostrils with warm milk and water. What proves more frequently hurtful, is a violent cough,

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I i

which,

y Hippoc. jusjurand. cap. 15. pag. 144.

which, in the last months of gestation, is of all things the most troublesome, when the *abdomen*, by its great bulk, hinders the free motion of the diaphragm^z. In this case, the gentlest softening remedies, particularly opiates, must be forthwith opposed to the violent cough; for although the shocks, occasioned by vomiting, are not destitute of danger, yet both abortion and uterine hæmorrhages, happen most frequently from violent fits of coughing^a.

Injudicious application of hysterical medicines, and such as provoke the terms.] That the milder sort of anti-hysterical medicine and duly-tempered cordials were of service to women with child, was before observed at § 1300. Here those remedies only are condemned as hurtful, which from their forcible effects are called emmenagogues, of which we have discoursed already at § 1291. In this affair physicians can never be too cautious, lest they be imposed upon by abandoned women, who attempt by every means to destroy the *fetus*, in order to hide their shame and ignominy, especially in the beginning of conception, when the *abdomen* has not as yet attained such a size, as to discover their pregnancy to be certain. I always suspected those in particular, who, while they looked fresh coloured, complained of a suppression of their *menstrua*, desiring, at the same time, to have some strong medicines, and assuring me that their bodies were so strong and hard to work upon, that no good could be expected from any thing which was mild or gentle. In this case I used to give such remedies, as were entirely harmless, and could not in the least give any disturbance to the body; by which piece of medical craft I frequently brought it about, that for some time, being led on by flattering hopes, at length their bellies beginning to swell, they at last acknowledged their

^z Mauriceau traité des malad. des femmes gross. Liv. I. chap. 16. pag. 141.

^a Levret l'art des accouchemens, pag. 195.

their being with child, and never thought more of destroying the *fœtus*, but only how to conceal their delivery.

For almost all those remedies, which can justly be called by the name of *emmenagogues*, are of an acrid nature; but *Hippocrates* has remarked ^b, *Sunt autem quæ, si acre quiddam aut amarum, præter consuetudinem, ederint aut biberint, fœtus perdunt, tenello adhuc puello intus existente; si quid enim puero præter consuetudinem accidat, atque si parvulus adhuc fuerit, moritur.* “ There
“ are women, who, should they eat or drink any
“ thing more acrid or bitter than what they have
“ been formerly accustomed to, will readily destroy the
“ *fœtus*, in case it is yet very young in the womb;
“ for the child, if any thing extraordinary happens
“ to it, especially when as yet so very small, most
“ readily dies.” But when the *fœtus* is once dead, abortion is unavoidable, which is usually attended with a hæmorrhage from the *uterus*.

Now all acrid remedies whatsoever, which affect either the *uterus* itself, or the parts adjoining thereto, so as to stimulate them into violent contractions, are very deservedly ranked among the causes of a uterine hæmorrhage. It is common to administer gently-stimulating glysters, as also suppositories, to women in labour, not only to bring away the hardened *fæces*, but also with a view to stir up and rouse the labour-pains, when they happen to be slow and backward: for the same reason all acrid purgatives are carefully avoided during pregnancy, as they not only occasion painful and troublesome gripes in the belly, but also bring on a violent *tenesmus* in the *intestinum rectum*; which, according to the testimony of *Hippocrates* ^c, *si mulieri utero gerente oboriatur, abortum efficit,* “ if it seize upon a woman with child,

I i 2

“ causes

^b De mulier. morb. Lib. I. cap. 24. pag. 745. Charter. Tom. VII.

^c Sect. VII. aphor. 27. Charter. Tom. IX. pag. 304.

“ causes abortion.” The reason is given by Galen in his commentary ^d, *tali contentione & molesta sollicitatione cum totum corpus, tum præ cæteris uterus, recto intestino coalescens laboret*, “ that by such painful disturbance, and troublesome inquietude, the whole
“ body, and more particularly the *uterus*, which is
“ immediately attached to the *intestinum rectum*, are
“ greatly disordered.”

The same thing, it is plain, may be justly apprehended from a very violent strangury, and for the very same reason.

A blow received upon the lower part of the belly.] For the *uterus* swelled out and turgid, with the *fetus* contained within, occupies the anterior part of the lower belly; whence, by applying the hand to that place, the motion of the child in the womb may easily be felt. From such a violence, then, being inflicted, the connexion of the *chorion* and *placenta* with the *uterus* may not only be destroyed, but the *uterus* itself may be also divided, as appears from what has already been mentioned above. This is the reason why a fall is always so very dangerous to pregnant women; especially if they happen to fall forwards, for then they are almost sure to strike the prominent part of their bellies, with violence, against the ground. Whence also, in the Mosaick laws, a very severe punishment was decreed against the person who should strike a woman with child, in the belly.

But as we observed a little before this, besides the causes just now enumerated, there may be such a disposition in the *uterus* itself, as greatly to favour a uterine hæmorrhage, and abortion of course, even from the slightest causes; nay, sometimes, even without any foregoing cause at all that could be observed. Such a disposition, however, is sometimes common to the *uterus* with the rest of the body,
sometimes

^d Ibid. pag. 305.

^e Exod. cap. 21.

sometimes peculiar to the *uterus* alone. Thus, in countries which lie open to the south, *Hippocrates* remarks ^f, *corpora ut plurimum imbecilliora esse*, “that
 “ people’s bodies are commonly more delicate;”
 and adds, *Mulieres morbis & fluxionibus obnoxiae sunt; deinde multae ex morbo, non natura, steriles sunt, & requepter abortiunt*. “Women are very liable to
 “ diseases, and to defluxions; many again are barren
 “ through disease, and not by nature, and frequently
 “ suffer abortion.” So also in another place he says ^g,
Quae praeter naturam tenues utero gerunt, abortiunt bimestria, antequam crassiores evaserunt, “Those who
 “ are uncommonly slender, and with child, suffer
 “ abortion in the second month, ere they acquire a
 “ proper degree of thickness.”

Some such observations we read in another place ^h, where he takes notice of the *fœtus* being destroyed at a month, or two months conception, from this cause alone. Some also read *το σωμα*, the body, in place of *το σῶμα* ⁱ: so that in this case the sense would be, not that the orifice of the *uterus* was to be thickened, but the whole body; for thus the text agrees with the aphorism just now cited. Besides, this is confirmed by the following, which is immediately subjoined ^k: *Quod si praeter naturam crassior evaserit, utero non concipit; omentum crassius incumbens uteros comprimit, neque genituram suscipere finit*. “But
 “ if she shall grow præternaturally thick, her womb
 “ does not conceive; for the *omentum*, being fat
 “ and bulky, lies above and compresses the *uterus*,
 “ and hinders it from rightly receiving the seed:”
 where fatness is manifestly opposed to immoderate leanness; which he orders to be brought down and

I i 3 attenuated,

^f De aere, locis & aquis, text. 9 & 10. Charter. Tom. VI. pag. 190.

^g Aphor. 44. sect. 5, Charter. Tom. IX. pag. 221.

^h De natur. mulieb. cap. 19. Charter. Tom. VII. pag. 690.

ⁱ Ibid, pag. 895.

^k Ibid. pag. 690.

attenuated, as they can never otherwise become pregnant¹.

But the peculiar disposition of the *uterus* itself may likewise be the cause of this disorder, while the rest of the body may be in very good condition. Thus in *Hippocrates* we find what follows^m: *Quæ vero mediocriter corpulentæ fœtus bimestres & trimestres abortiunt sine manifesta causa, illis uteri acetabula mucore plena sunt, neque præpondere fœtum continere possunt, sed abrumpuntur.* “Those who, having a moderate degree “ of corpulency, suffer abortion in the second or third “ month, without any manifest cause, have the ori- “ fices of their uterine vessels filled with nasty “ *mucus*, and so being unable to sustain the weight “ of the *fœtus*, they must be broke asunder.” The *diagnosis* of such a disorder, he lays down as followsⁿ. *Hoc autem modo noveris: humida fit, & mucosum glutinosumque defluit, neque mordet: & ubi a fluxu purgari desierit, cum mensibus per duos aut tres dies muci ex utero procedunt.* “By this you may know it: she “ becomes moist, and has a mucous and glutinous “ sort of defluxion, not at all painful: and should the “ defluxion give over for two or three days, a mu- “ cous discharge comes away along with the *menfes* “ from the *uterus*.” Thus he describes a cold mucous disposition of the *uterus*, or a simple *fluor albus*, where there is as yet no degree of acrimony to occasion pain.

In another place^o he remarks, that there are some women who conceive very readily, yet quit their conception in the third or fourth month, without any previous cause, *si uteri, aut natura, aut ulceribus in his subortis, læves fuerint: si namque læves fuerint, interdum fœtum continentes membranæ, minus quam con-*
veniat

¹ Sect. 5. aphor. 46. Charter. Tom. IX. pag. 222.

^m Ibid. aphor. 45.

ⁿ De natur. mulieb. cap. 17. Charter. Tom. VII. pag. 689.

^o De mulier. morb. Lib. I. cap. 21. Charter. Tom. VII. pag. 743.

veniat adhærent, “if the *uterus*, either by nature,
 “or from ulcers arising therein, happen to be
 “smooth; for should they happen to be smooth, the
 “membranes, which contain the *fœtus*, will not,
 “sometimes, have so firm a connexion as is neces-
 “sary.”

We see, moreover, from what has been mentioned
 before, that whilst the *fœtus* increases, the size of the
uterus, for the purpose of its accommodation, is also
 enlarged in proportion. *Hippocrates* ^p seems to have
 taken notice of this as a cause of abortion, when the
uterus does not enlarge itself in proportion; for thus
 he has it. *Si vero concipiat quidem, sed fœtus bimestres*
eodem exacte tempore corrumpat, neque prius neque pos-
terius; idque ei bis vel ter eodem contingat modo; aut
etiam si longioris temporis fœtum eodem modo corrumpat;
hujus uteri in majorem molem non crescunt, fœtu in eis
augefcente, & bimestre vel trimestre spatium excedente.
Sed hic quidem augefcit, uteri vero nihil increfcunt, prop-
terea sane multæ eodem tempore fœtum corrumpant.
 “Should she, however, really conceive, but lose her
 “conception in the second month, exactly at the
 “same time, neither sooner or later; and this shall
 “happen to her twice or three times running in the
 “very same manner; or even if she should lose the
 “*fœtus* of an older term in the very same way; the
 “*uterus* in this woman does not grow larger than a
 “certain size, while the *fœtus* within goes on to in-
 “crease, beyond perhaps the space of two or three
 “months after. But the *fœtus* still goes on to increase,
 “whilst the *uterus* ceases to be enlarged in propor-
 “tion, which is indeed the reason that many women
 “miscarry at a particular time.” I have myself seen
 many such cases, and was more particularly surprized
 at that of a very healthy lady, who, without any
 manifest cause, frequently suffered abortion about the
 end of the fifth month; nor did she ever bring forth

a child at the full time, notwithstanding every kind of remedy had been tried by the most knowing physicians.

Whence it is not without reason, that *Hippocrates*, after he had recounted all the various causes, by which the *fœtus* might be destroyed, subjoins the following¹: *Sed et ipsi uteri naturas habent, quibus abortionem faciunt, quum flatulenti, densi, magni, parvi, existunt, aliis similibus afficiuntur.* “ But the *uterus* “ itself hath also a peculiar disposition, whereby it occasions abortion, when it is flatulent, too dense, large “ or little, or affected by some such improper qualities.” We are assured, by a very eminent master in the art of midwifery, that in some women he had found the *uterus* so hot, as to kill the *fœtus* with the excessive heat, and to dry up and harden it. This he more particularly observed in a certain woman, whose internal surface of the *uterus* felt rough, and parched with so great a degree of heat at the same time, that it was uneasy to the hand when put up within it, which could not, by any means, long endure to be kept in that situation. The *fœtus* was dead, dried up, and hardened; the *placenta* was small, parched, and cohering very closely, so that it was with difficulty separated from the *uterus*. He remarks, at the same time, that this very woman had lost several *fœtuses* on account of this same excessive heat in the *uterus*².

It seems, indeed, to be no improper distribution of the causes, that bring on abortion, which we find in *Duretus*³, distinguished into two classes: *Abortionis omnes causæ, tam intra natæ, quam extrinsecus incidentes, revocantur ad duplicem impotentiam; unam gerendi fœtum, alteram nutriendi*: “ Every cause of abortion, whether inherent within, or happening from without, “ may all be reduced to a twofold inability, the one “ of

¹ De mulier. morb. Lib. I. cap. 24. Ibid. pag. 745.

² Peu pratique des accouch. Liv. II. chap. 17. pag. 535.

³ In coac. Hippocr. pag. 442.

“ of properly accommodating the *fœtus*, the other of
 “ affording it due nourishment.”

Besides, if the *fœtus*, from whatever cause it may happen, should die before it is ripe for delivery, the consequence will readily be a hæmorrhage from the *uterus*, together with the expulsion of the dead *fœtus*: for although some rare instances may have happened, where a dead *fœtus* has remained for several months, nay, for years, within the *uterus*, yet, for the most part, this useless dead lump is commonly expelled in a very short time after the accident. But even this rudiment of a human creature is no sooner endued with life, than it becomes that moment subject to mortality: nor are the causes so very powerful, which seem sufficient to destroy the tender *embryo* in the mother's womb; for it is a constant observation, that the greatest part of mankind are taken off by death, the nearer they are to their origin. *Plerumque enim, cum admodum sunt exigui, imbecilles existunt; quin & grandiusculi fœtus etiam corrumpuntur. Quare mulieres mirari non oportet quod nolentes fœtus corrumpunt; nam continue & scientia multa opus est, ut in utero fœtum perferunt & enutrient, eoque in partu liberentur*^t. For
 “ when they are very young and small, they are for
 “ the most part very weak: nay, even fœtuses of a
 “ pretty large size are also ready to be lost. Where-
 “ fore women must not be surprised that they lose
 “ their fœtuses against their desire; for at all times
 “ there is great attention and skill requisite to as-
 “ sist them in conceiving, and completing their
 “ gestation, in nourishing the *fœtus*, and freeing them
 “ of it, at last, by a safe delivery.”

There are, besides, causes of a uterine hæmorrhage, which have a relation to the *fœtus*; but these can neither be certainly known, nor, if they were known, could they be either removed or prevented.

Those

^t Hippocr. de mulier. morb. Lib. I. cap. 25. Charter. Tom. VII. pag. 745.

Those of eminent skill in the art of midwifery ^u, have observed, that should the umbilical rope be shorter than usual, or though it should be of a sufficient length, yet if it happen to be twisted round the neck or limbs, there is then great danger, lest, by the motion of the *fœtus*, the *placenta* should be separated from the *uterus*, and that again be followed by a uterine hæmorrhage. We have an instance of such a case ^w, and it is very well known, that difficult labours very often happen from this same cause, as we shall afterwards see, when, for instance, the child, intangled in its own navel-string, cannot be excluded by the most violent efforts of the mother. The *placenta* usually adheres to the bottom of the *uterus*, sometimes also to the sides; very seldom to the neck of the *uterus*; which last, when it happens, a hæmorrhage from the *uterus*, towards the end of gestation, is impossible to be avoided ^x. I had occasion to see two instances of the birth of a dead child, in one lady of distinction, where every thing was exactly and rightly formed, only the navel-string was, towards the middle, twisted into a firm knot, so that all communication between the mother and *fœtus* had been intercepted. The umbilical rope seems to have formed by chance a bought or link, through which the whole body of the *fœtus* passed, and afterwards, by its motion and weight, had drawn the knot, already formed, into such a degree of tightness, that the umbilical vessels were entirely compressed; for when the knot was loosed out, all that part of the navel-string, which was taken into the knot, was quite flattened. This lady, however, had borne several children alive, both before, and likewise after these two mischances.

Hence

^u Meuriceau traité des malad. des femmes gross. Tom. I. pag. 159.

^w Acad. des scienc. 1701. mem. 118.

^x Levret l'art des accouchemens, pag 39.

Hence it is very evident, that there may be very surprising and hidden causes assigned for a hæmorrhage of the *uterus*, which no human prudence can prevent or avoid. It now follows, that we consider those means requisite to secure a woman with child from so great a danger, whilst the blood continues to flow from the *uterus*.

S E C T. MCCCVII.

THE remedies are, rest and quiet to mind and body, moderately cool air, bleeding, astringents, opiates.

Rest and quiet to the mind and body.] As to this particular, all are unanimously agreed; for since, as we have observed before, in a preceding paragraph, excessive motion of the body, and violent affections of the mind, are so frequently the causes of a uterine hæmorrhage, it is of itself extremely plain, that rest must be highly necessary, lest all the blood should pass out entirely by the open vessels of the *uterus*, and the consequence should be inevitable death. Hence the patient's clothes ought to be immediately loosened, lest the external vessels be any way compressed, and so a larger quantity of blood, by that means, circulate internally. Afterwards, care is to be taken to lay her in a horizontal posture; for by this she is prevented, as much as can be, from fainting.

Air moderately cool.] Frequently, by reason of the great loss of blood, they turn pale and cold; and then the hæmorrhage is diminished, or sometimes is entirely stopped; but as soon as the surface of the body is well covered up in bed-clothes, or cherished with warm clothes, the hæmorrhage immediately begins again to break out: for the sole and principal hope
consists

consists in this, that while the smallest life remains, there may be an opportunity given to the orifices of the vessels to contract, or to be stopped up by the coagulated blood: whence it is recommended, that they be laid rather on a hair-matras well stuffed, than on a soft feather bed. For the same reason they are to be revived with no cordials, however weak they may be, and afraid of fainting; or, if any should be administered, they ought to be of the gentlest sort, and no way spirituous. The fragrancy of a lemon, the smell of balm, the flowers of linden, roses, elder, and such like, as also of the simple waters distilled from these, will be sufficient. But in what manner the heat of the air is to be tempered, we have already shewn at § 605, No. 2. It is very often observed, that wounded soldiers, drained almost of every drop of blood, while they are left in the open air, among the dead bodies, afterwards recover, who would, in all probability, have been hurried to their graves by a more officious care and tenderness. On another occasion we took notice, at § 161, of a country peasant, who escaped, notwithstanding he had his axillary artery divided, and was laid up for dead. But how much the use of cold water was conducive in checking hæmorrhages, has been already demonstrated at full length, at § 1200, No. 2. In *Hippocrates* we read of the following remedies against the uterine hæmorrhage^v: *Spongiam madefactam admoveto; & linteum læve molle, derasum, aqua frigida imbutum, ventri injicito; frigidaque aqua perfundito, lectumque a pedibus altiore facito, ac ita sternito.* “Let a wet sponge
“ be applied, and a piece of smooth, soft, scraped
“ linen, charged with cold water, be put up the
“ belly; sprinkle cold water all over the body;
“ let the bedstead be raised up somewhat towards
“ the feet, and make up the bed in the same man-
“ ner.”

^v De mulier. morb. Lib. II. cap. 4. Charter. Tom. VII. pag. 797.

“ner.” We have something like the same in
Moschio^z. *Oportet autem eas, cum curari ceperint,*
jacere in cubiculo parvo & obscuro, & mediocriter refri-
gerato & firmo. Inferiores pedes altiores capite habeant
cum omni silentio, & quiete corporis: omnis vero motus
fluxum provocat: ita ut pedes contortos supra invicem ha-
beant; & spongas magnas, in aqua frigida vel pesca-
intinctas, partibus ipsis applicare, hoc est pectori, (forte
pectine cum in Græco textu legatur ὤσῃς) renibus, & ad
inguina ita ut frequentius etiam mutantur ne temperie
corporis caleant. Extrema etiam universa strictius tene-
re, & fasciis ligare oportet, aut aqua frigida submittere
faciem; etiam de aqua recenti fomentare, omneque corpus
ejus ventilare flabellis. “It is necessary, when they
 “enter upon their cure, to be laid in a little bed-
 “chamber, rather dark, and moderately cool, and
 “but tolerably tight: let their lower extremities be
 “laid higher than the head, and let the body be
 “kept still and quiet; for every kind of motion is
 “apt to provoke the flux: and their feet be twisted
 “in, one above another: apply also large sponges
 “dipped in cold water, or vinegar mixed with water,
 “to the parts themselves, that is, to the breast, (share-
 “bone rather, as it is read, ὤσῃς, in the Greek text)
 “kidneys and groins, changing them also frequently,
 “so as not to allow them to grow warm by the heat
 “of the body: all the outer surface should be kept
 “tight, and bound up with bands, or the face put
 “under cold water; also to foment constantly with
 “fresh cold water, and to cool the whole body
 “by constant fanning.” Nay, he also recommends
 in the same place a cold bath, of the decoction of
 astringent plants. But seeing this would require the
 body to be moved, it is very plain it could hardly be
 proper to administer it, unless the hæmorrhage was
 now very much diminished, or almost entirely stop-
 ped;

^z Spach. gynæc. pag. 16. & Harmon. gynæc. part. post.
 cap. 20. pag. 32.

ped; whence it seems rather better calculated to strengthen and secure against a relapse, than to be of service in checking a very violent hæmorrhage. This, at least, is evident, that it is a long time since physicians have expected great benefit from moderately cold air, in refrigerating the whole body; whence also it was customary to give cold water, mixed with the juice of lemon, by way of drink, and broths administered moderately cool.

Bleeding.] Which, when the connexion of the *placenta* is once dissolved, and the blood runs from the *uterus* in a full stream, can hardly be administered with safety; for lessening the quantity of blood will not, in the least, hinder what remains from escaping through these large open vessels; and so, from the additional inanition, both convulsion and death must sooner follow. Bleeding is of very great use in guarding against a hæmorrhage from the *uterus*, when, after a sudden fall, a woman with child may have reason to apprehend its coming. It is also very properly administered, when very few vessels only are hurt, and the blood issues from the *uterus* in small quantity; for thus, together with rest and quiet to body and mind, the hæmorrhage is sometimes kept from increasing, and abortion prevented. *Helmont*^a, inveighing against the physicians, in that they ordered bleeding both in cases where the *menfes* were retained, and where there happened to be too liberal a discharge, says, *simile fortassis fuerit, si nimis petulantem equum, tendinis læsione, claudicare fecerint*; “that it would be pretty much the same, as if, to
“cure an unruly horse of his mettle, one, by cutting
“his tendon, should make him lame.” For should women with child escape the present danger, there is just reason to be afraid of their falling, through the great loss of blood, into a cachexy or dropfy.

Astringents.]

^a In capitulo de conceptis, No. 23. pag. 487.

Astringents.] How much is to be expected from astringent remedies, whilst they cannot be immediately applied to the wide open vessels, that are pouring an incessant large quantity of blood, hath been already considered, at § 1200, No. 2. in treating of the *hæmoptœ*. But here too the blood flows from the uterine vessels, to which no styptics can be immediately applied; and therefore all that has been there said, may also be very properly applied to the uterine hæmorrhage.

I know very well indeed, that pessaries, prepared of astringent remedies, have been recommended by *Hippocrates*, and also, afterwards, by other physicians; but these only lie in the *vagina*, nor ever can be made to reach the orifice of the *uterus*: hence neither can there be any certain assistance expected from them. Again, when the *vagina* is blocked up by these pessaries, the blood, not flowing out with freedom, coagulates, not only in the *vagina*, but sometimes, likewise, in the orifice of the *uterus* itself; and thus there may be some stop put to the hæmorrhage: but then, at the same time, as the open vessels are still pouring out, the blood gathers, and getting in between the *chorion* and surface of the *uterus*, separates the *chorion* more and more from the *uterus*, and by that means breaks through more vessels. Hence, when the clots of blood, which choak up the orifice of the *uterus*, come to be expelled, the hæmorrhage of the *uterus*, which was thought to be diminished, when very little or nothing could get out, whilst the *vagina* was blocked up by the pessary, returns with more violence than ever: and what is still more, the grumous clots, which stick in the orifice, will irritate the *uterus*, and may excite labour-pains, which will certainly endanger the life of the *fetus*, if it should be, as yet, too young; of which more shall be afterwards said in some following paragraphs, where we shall see the masters of this art go over to dif-

ferent opinions, while some are for promoting, by every method, the immediate expulsion of the *fetus*, in order to snatch the mother the sooner from so great a danger; and others again are for proceeding with a little more leisure and circumspection. It is, however, certain, that as we have just now observed from *Moschio*, if a woman lie quiet with her thighs close, one thrown over the other, she may so compress the external lips of the *vulva* together, as the blood may have an opportunity of clotting, and so all that be obtained, which, in any shape, can almost be expected from a pessary. If any one, however, has a mind still to try this, it seems advisable to refrain from the use of all acrid styptics, neither to introduce them too far up into the *vagina*, lest the orifice of the *uterus*, which is very sensible, should suffer injury or irritation.

Opiates.] From the use of these there may perhaps be more good expected. Formerly, at § 1200, No. 2. it was said that the action of styptics was much more successful in brutes than in the human species; and that for this reason, because brutes are incapable of knowing the danger, but mankind are under great pain and disturbance on the occasion: if this disturbance, therefore, by giving an opiate could be taken off, in that case they might be perhaps of equal benefit in the human species. Every physician knows how much women with child are alarmed and disturbed as soon as they perceive a hæmorrhage from the *uterus*, being in great apprehension and dread both for their own safety and the life of the *fetus*; and so therefore opiates on this account may be of great use and benefit.

But experiments also made upon frogs seem to put it beyond doubt, that *opium* has a power of retarding the circulatory motion of the blood. The celebrated *Alston*^b, in that ingenious discourse on
opium,

^b Medic. essays and observ. Tom. V. part. I. No. 12. p. 153.

opium, made some experiments on frogs, in order to discover what changes were made by *opium* upon the blood, or upon its motion through the vessels. It is very well known that, by means of a microscope, the circulation of the blood can be very well perceived through that transparent membrane, or web, which joins the toes of this creature's feet together. After he had conveyed, by means of a small glass tube, a few drops of a solution of *opium*, made with water, into the stomach of the frog, and afterwards had applied the microscope, none present could discern any alteration in the consistence, or colour, of the red blood and *serum*; no change appeared with respect to the magnitude, figure, or colour, of the red globules. But the velocity of the blood's motion through the vessels was changed in a very surprising manner, so as to be one half slower than formerly: half an hour scarcely elapsed when the motion of the blood through the vessels began to increase gradually, and the frog regained its former vigour, together with the same quickness of circulation of blood thro' its vessels as before. The frog was put into fresh water for half an hour, in order to refresh itself. Then, after having another dose of *opium* poured into its stomach, it was exposed to the microscope: the blood moved much slower through the vessels than in the first experiment, and gradually diminishing in celerity, at length it stopped altogether, first in the smaller vessels, then in the larger; and at last, in about a quarter of an hour, the creature expired. But notwithstanding the velocity was considerably lessened, yet the pulse in frequency was no ways sensibly diminished. Nay, even when the progressive motion of the blood entirely ceased, yet the strokes of the pulse might be perceived by a sort of undulatory motion, by which, during the *diastole* of the heart, the blood seemed to go as far back as it

advanced in the time of the *systole*, till the frog, at length, appeared to be quite dead. Nothing disordered however could be observed in the *viscera*; the stomach was only filled with a gelatinous *mucus*, tinged a little with the colour of the *opium*.

These experiments also were frequently repeated, and always with the same success. One of these frogs, however, put to death in this manner, came to life again, being kept in a vessel, in such a way as, should it revive, it might be either dry, or in water, as it should find most convenient.

These were also confirmed by a number of experiments made by the celebrated Dr. *Whytt* ^c, where he has likewise many other ingenious observations, to prove that *opium* has a very powerful efficacy even on the muscular force of the heart itself.

But seeing it may be of use in violent hæmorrhages to keep up life in its weakest state, as we have frequently before observed, the reason at once appears why opiates in this respect also may be of very great benefit. In the *Materia Medica*, at this number, such a *formula* is to be seen, in which three grains of *opium* are dissolved in six ounces of water, and a spoonful is to be given every quarter of an hour, till the disorder begins to lessen: the following words are afterwards added, *si medicamento hujusmodi superabile sit*, “if it is to be subdued by a medicine of this sort.” At the same time the *lap. hæmatites*, *bolus armena*, *sanguis draconis*, “blood stone, Armenian bole, dragon’s blood,” are added to the mixture; which are all recommended for their astringent quality; but as to what is really to be expected from medicines of that sort, we have already given our opinion.

Ligatures also on the limbs are found beneficial, such, however, as only press upon the veins, and serve

^c Essays and observat. physic. and liter. Tom. II. pag. 280, & seq.

serve to retain the blood in these vessels: but the arteries, which for the most part lie deeper, ought not by any means to be compressed: this may very well be obtained by a bandage applied only with a moderate degree of tightness; for the whole intention is only, that part of the blood may be retained in the limbs, so that all may not be suffered to flow out by the uterine vessels; and for the same reason, the arteries ought to remain free. Concerning this matter we have already discoursed at § 743, in treating of the methods of checking a violent hæmorrhage at the nose: besides, it may be necessary to observe, that should the arteries of the lower extremities be compressed, the force and quantity of blood, driven through the vessels of the *uterus*, may then be increased, and so also the hæmorrhage of course: for it was remarked at § 1291, that sometimes a suppressed menstrual flux of blood has been restored by a compression made on the great femoral artery, and relaxing the *uterus* at the same time by the application of warm baths.

But when the hæmorrhage from the *uterus* begins to lessen, whether by the collapsing of the vessels, or by the *thrombi*, or clots of extravasated blood, stopping up their open orifices, all the ligatures are not to be loosened at once, and at the same time, but one after another: for there is reason to be afraid lest the collected blood should return too suddenly to the heart and oppress it, there being frequently a very great degree of weakness; or even lest it should be irritated into a more frequent and violent contraction; whence there may be very just reason to apprehend an increase of the hæmorrhage. The exhausted vessels, in the mean time, may be recruited by small quantities of veal broth, given frequently and moderately cool. *Lower*^d mentions a case, as having heard it from a physician of the greatest credit, where, in a

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youth

^d De corde, cap. 2. pag. 70.

youth of sixteen years of age, the blood sprung out for two days together continually, nor could be stemmed by any means whatsoever; whence they attempted to restore his strength by means of nourishing broths, which he took down with the greatest relish; *Et tandem res eo devenit, ut, massa sanguinis fere tota effluxa, quicquid jam efflueret dilutum Et pallidum, sanguinis neque naturam, neque speciem, præ se ferret, ipsi juscule quod toties hauserit, quam sanguini, similis; atque eadem forma per diem unum Et alterum duravit hic aqueus fluxus, constante interim cordi motu suo, donec, fluxu tandem consopito, juvenis paulatim integræ sanitati restitutus est, Et exinde in virum robustum Et quadratum excrevit;* “till, at last, things came to
 “that pass, that the whole mass of blood having
 “almost run off, what then came away looked to
 “be pale and diluted, no way resembling either
 “the nature or appearance of blood, but liker to
 “the broth which he had drank, than to the other
 “fluid; and this watery efflux for a day or two continued to have the same appearance, while the
 “heart persisted in its motion, as usual, till such times
 “as the flux being at length moderated and soothed,
 “the young man was restored again to perfect
 “health, and from that time began to grow till he
 “came to be a strong, robust, square-set man.”
 Seeing therefore that broth of this sort, in a body so weakened by such a hæmorrhage, could flow through the vessels almost unchanged, and sustain life, though exceeding weak, it is plain that in a violent hæmorrhage of the *uterus*, though life is indeed in the greatest of dangers, and all hopes turn upon a very narrow point, yet we are not wholly to despair, provided stimulating cordials, and things of that sort, be kept away, which the good friends and by-standers are, on account of the great debility of the patient, but too ready to recommend: for the only spark of hope consists in life supported in a weakly state. By this method I have
 preserved

preserved several women with child, who, to all appearance, could not have been preserved by any other means whatsoever.

S E C T. MCCCVIII.

IF by these no advantage should be gained, the child is to be forthwith brought away in the most skilful manner, changing its posture in the most convenient way for a speedy delivery, and the womb cleared of the *fætus*, *placenta*, and grumous blood, as soon as possible.

Seeing that, in the natural delivery, the *placenta* is no sooner disjoined from the *uterus*, than there follows a pretty plentiful hæmorrhage, which, however, is soon stopped by the contraction of the *uterus*, now empty and at freedom; hence it is no wonder that all are so desirous, in very dangerous hæmorrhages of the *uterus*, to have the cavity freed as soon as possible of its contents; for when abortion is the consequence, as it frequently is in the first months of gestation, the hæmorrhage usually lessens in a very short time, and at length entirely ceases, and all by the contraction of the *uterus*. *Hippocrates*° observes, *In fluore muliebri, si convulsio, aut animi defectio, superveniat, malum*, “That in a female flux, or “flooding, if convulsions, or fainting should supervene, it is a very bad sign.” And elsewhere he has the like calamitous presages, and, in particular, is afraid of terrible convulsions†. *Magni pedum digiti contrahuntur, & ad suras femora semper contendit, lumborum ingentes dolores, & manuum ad motum impotentia. His ita contingentibus, tum a claviculis ad jugula, ad malas, & linguam, tetani fieri consueverunt. Et ex his paulo post in posteriora a tendinibus juxta spinum ad lumbos;*

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° Aphor. 56. sect. 5. Charter. Tom. IX. pag. 229.

† De mulier. morb. Lib. II. cap. 1. Charter. Tom. VII. pag.

lumbos; *sicque per violentiam pereunt*. “The great toes
 “ are contracted, and the thighs and legs are always
 “ drawn towards each other; vast pains arise about
 “ the loins, and the hands are deprived of all power
 “ of moving. While all these symptoms prevail in
 “ this manner, convulsive cramps also, usually begin-
 “ ning at the clavicles, fly up to the throat, cheeks,
 “ and tongue; and from them in a little after they
 “ get down by the back, along the tendons near
 “ the back-bone, to the loins; and thus the patients
 “ are carried off by the mere violence of these symp-
 “ toms.” Since then such horrid consequences are
 to be apprehended from a hæmorrhage of the *uterus*,
 even the most skilful masters in the obstetric art
 have therefore advised, in such dangerous circum-
 stances, that the *uterus* be forthwith evacuated; nay,
 have placed the only hopes of safety in this alone.
Mauriceau ^g has said, that when the hæmorrhage from
 the *uterus* is very violent, there is then need of the
 utmost dispatch, and orders the operator to lay hold
 of the child’s feet with his hand, and bring it away
 in that manner; and relates, at the same time, the
 melancholy case of his own sister, who was carried
 off in the last month of her pregnancy, owing to
 their being too late in bringing the child away, after
 that she had almost lost every drop of blood in her
 body. Several other cases he mentions of women
 with child, who, together with their *fœtus*, had been
 preserved by a timely delivery. *Van Deventer* ^h is of
 the same opinion, and orders the child to be imme-
 diately brought away, whenever a dangerous hæmor-
 rhage from the *uterus* shall happen, on account of
 the separation of the *placenta*, and indeed *quocunque*
tempore, sive ante, sive post septimum mensem, “at
 “ whatever time, whether before or after the seventh
 “ month.”

^g Des malad. des femmes gross. Liv. I. chap. 21. Tom. I.
 pag. 161, &c.

^h Nov. lum. obstetric. cap. 53. pag. 145.

“ month.” In the mean time however it is very certain, that this is not to be done without dilating the orifice of the *uterus*, which sometimes cannot be accomplished without employing considerable force and violence: but, in the following chapter, it will more plainly appear, that a violent dilatation of the orifice of the *uterus* cannot be performed without great hazard; for very often a very dangerous inflammation of the *uterus* is the consequence. *Mauriceau*¹ acknowledges, that if the orifice of the *uterus* shall be soft, slender, and smooth, in that case they easily escape; and on the other hand, if it should be thick, hard, and unequal, they are carried off. The reason is very evident; to wit, the great degree of violence which must be offered to the orifice of the *uterus*, before it can admit the hands of the surgeon, in order to bring away the *fœtus*.

This, indeed, was the reason why some have been of opinion, that the *fœtus* ought, by no means, to be brought away, unless where it can be done without a violent dilatation of the orifice of the *uterus*, and that then only it can be of real benefit, when the orifice of the *uterus* is so far open as easily to admit the operator's fingers. In the same place also an unhappy case is related, where, after the *fœtus* was brought away, the hæmorrhage did not diminish, but, on the contrary, increased till the poor miserable woman, after having spent all her blood, at last expired. In another place afterwards he still inculcates the same admonition, and presages certain death as the consequence, if there is a necessity of using any violence to the orifice of the *uterus* in order to bring away the *fœtus*. Nay, even *Levret*, of no inconsiderable reputation in the obstetric art, was of opi-

K k 4 nion,

¹ Livr. I. chap. 21. pag. 170.

^{*} Peu pratique des accouchem. Liv. II. chap. 1. pag. 272, & seq.

nion, that a woman with child, if, in case of a hæmorrhage from the *uterus*, the labour-pains were not as yet begun, nor the end of the usual term of reckoning near, was not even to be examined by the touch. But where, in the very time of labour already begun, a profuse hæmorrhage from the *uterus* shewed itself, then indeed, in that case, he advises to break through the membranes which contain the waters: for when the waters are once evacuated, the *uterus* will then have room to contract itself, and so the hæmorrhage will be diminished.

The ingenious *Puzos*¹, justly celebrated for his skill in this art, very prudently indeed followed a middle course: for when he perceived that the bringing away the *fœtus*, where it must necessarily be performed with a violent dilatation of the *os uteri*, was always attended with so much danger, even though it was frequently accomplished in a very short time, and that all believed it ought to be quickly dispatched, in order to give the *uterus* room to contract; when he observed, at the same time, that a uterine hæmorrhage, happening at the usual time of delivery, was greatly diminished upon the increase of the labour-pains; he therefore concluded that these pains were to be increased, or excited if they were not as yet come on. He acknowledges, that the exclusion of the *fœtus* is not only conducive, but even altogether necessary, to put a stop to the hæmorrhage; but is, at the same time, of opinion, that this is to be attempted in a way which shall have the nearest resemblance to that of the natural delivery.

In the natural delivery, when the *fœtus* with its head enters into the orifice of the *uterus*, by how much the head advances, by so much is the *uterus* contracted,

¹ *Academ. de chirurg. Tcm. I. pag. 358, & seq.*

tracted, and the child's head, filling up the dilated orifice of the *uterus*, hinders the free efflux of the blood: at the same time the *uterus*, contracting itself pretty strongly, presses its whole internal surface to what is contained within its cavity; whence the open mouths of the vessels are compressed; but when the membranes are broke, and the waters run out, the *uterus*, contracting itself still more, by that means lessens the diameter of its vessels; and thus by its own native force, assisted by the efforts of the woman in labour, all the internal hollow surface is pressed strongly to the body of the *fœtus*; whence also the hæmorrhage will be in like manner diminished.

But the natural delivery generally proceeds in a slow manner, and a woman with child may very possibly be carried off by the violent profuse hæmorrhage, before the child's head has dilated the orifice of the *uterus*, so as to be able, by the efforts of the woman in labour, to enter it, or break the waters. This has been the cause why many have advised to forward the speedy exclusion of the *fœtus*.

However, it is plain from observation and practice, that the natural delivery may be accelerated by gently and gradually opening the orifice of the *uterus* with the fingers, in the same manner almost as it is, in the natural delivery, dilated by the strong efforts of the woman in labour. In a hæmorrhage of the *uterus* the *os uteri* opens more or less: it is moistened by the warm blood which comes away: sometimes it is still rendered wider by the large clots of coagulated blood being pressed out; from whence also, for the most part, slight pains arise, but too feeble on account of the weakness occasioned by the hæmorrhage; efforts must therefore be made to quicken them; which is done by introducing one or more fingers into the orifice of the *uterus*; by which means
it

it is gently, and by degrees, to be dilated; not all at once, but at short intervals: in consequence of this the pains are increased; the membranes, in which the waters are contained, swell out, which are to be immediately broken, that the *uterus* may now have greater liberty to contract, when freed from part of its contents; the hæmorrhage is diminished; and, in a short time, a delivery follows, which, for the most part, is attended with safety to both mother and child; whereas both might have perished, or been in the greatest danger, from the slowness of a delivery simply natural, if the *fætus* had not, by means of a quicker dilatation of the *os uteri*, been brought away by the hands of a surgeon.

In this manner is the orifice of the *uterus* to be dilated, but gently, and at proper intervals; the labour-pains raised, or increased, if they are already come on; and time and opportunity given to the *uterus* gradually to contract itself. But should the *os uteri* happen, in order to bring away the *fætus*, to be more suddenly or forcibly dilated, there is then good reason to be apprehensive of an inflammation ensuing; nor is it hardly to be expected, in this case, that the *uterus*, after the *fætus* is brought away, shall have still the due degree of power left, which is necessary to its quick contraction, whilst every thing continues in a flaccid state, on account of the strength being so much impaired by the preceding hæmorrhage; and this seems to be the reason why so many, after the *fætus* is brought away, are carried off by the continuation of the hæmorrhage; or, should they even get over this particular danger, yet, by reason of the violence done to the *uterus*, an inflammation succeeds, and they are seized with an exceedingly-acute fever, accompanied with the most dreadful symptoms, from which very few indeed recover.

The ingenious and celebrated *Puzos* has, from many curious observations, proved the utility of this method, which he justly prefers to the forcible delivery of the *fœtus*; which, however, is sometimes necessary, where the child's head does not correspond to the orifice of the *uterus*, but the situation perhaps is preternatural: but he remarks, at the same time, that a gradual attempt to dilate the *os uteri* must be made, in order that, if necessity should require it, the child may, with less inconvenience and trouble, be brought away by the feet.

Here he also very well observes, that hæmorrhages of the *uterus*, if they shall happen after the sixth or seventh month, almost always return, even though the very best method of cure, and the most necessary cautions, have been observed; for he was of opinion, that, in cases where the *placenta* was only in part separated from the *uterus*, should the hæmorrhage happen to cease, it was not owing to any new re-union made between the *placenta* and the *uterus*, but because the large clots of coagulated blood stopped up the wide open mouths of the vessels; which clots might drop off from the slightest cause, whence a relapse of the hæmorrhage might be very well apprehended. Yet the ingenious investigator of the gravid *uterus* imagines, that he had found one instance in his own wife, where the *placenta* had in part separated from the *uterus*, and was afterwards firmly reunited to the same again; for as she was going down some steps, one day, in perfect health, in the fourth month of her pregnancy, her foot happening to stumble, she was put in a terrible fright, but did not fall; nor had she ever before experienced the smallest harm from much greater causes of alarm and fear. A few days after, happening to rise in the night-time to make water; and immediately after lying down and composing herself to sleep;

^m Noortwyk de utero gravid. pag. 27, 28.

sleep; in the morning she found her urine deeply tinged with a mixture of blood, and the bed stained with a large yellow-coloured spot about a foot in length, something glutinous, and all round the edge begirt with a narrow border of a bloody colour. At first a miscarriage was greatly apprehended: but, however, by rest, and proper remedies, it was so managed, that she passed the rest of her term in very good health, and on the very day, which she had calculated as the last of her reckoning, she brought forth a fine, large, healthy girl, and, to all appearance, more robust than any of her other children she had borne before. But the *placenta*, to whose separation, in a greater or lesser degree, that profusion of thin blood from the *uterus* might, with great probability, be imputed, adhered now so firmly, that it could not be brought away without several reiterated attempts by the hand of the midwife: it came away, however, much lacerated in one side: afterwards, upon an accurate examination, there appeared a thin subpelucid membrane, altogether homogeneous, which covered the *placenta*, excepting only in the places that had been hurt, at whose edges it terminated by a very distinguishable mark of separation.

From all which it appears very probable, that the *placenta*, in part separated from the *uterus*, may be again firmly reunited to it; and that, even in these cases, we have less reason to be afraid of a return of the hæmorrhage.

S E C T. MCCCIX.

NOR is it any matter at what time of gestation this happens, seeing it is much more eligible to let the child perish, which even otherwise has scarce any chance for its life, and

and to save the mother, than to delay the operation till they must both be unavoidably lost.

This was formerly the opinion of *Mauriceau*ⁿ, who insisted upon having the *fetus* brought away as quickly as possible in all hæmorrhages of the *uterus*, even although the patient should not have been gone above three months with child; nay, though it should not even perhaps be yet so much. But, however, at this particular period of pregnancy, the lips of the *os uteri* meet closer together, and the situation of the parts lies higher up, so that it is not so very easy to touch them with one's finger, and much less so to open them in such a manner, as to be able to bring away the *fetus*; which also, on account of the smallness of its size, is difficult to lay hold on; nor is it possible, the body being so soft and slippery, to keep it fast within the fingers. *Mauriceau*^o however acknowledges, that, if the orifice of the *uterus* should be sufficiently open, it is much better to commit the whole affair to nature; but at this time of pregnancy it very seldom happens, that the orifice of the *uterus* is sufficiently wide to allow two fingers to be introduced without considerable violence. Another difficulty is, that no one can have a certain knowledge with regard to the bigness of the *fetus* about the third month, there being an immense diversity observed in abortions with respect to their magnitude, even though the patients should be gone only three months in their reckoning, and tho' abortions do more readily happen about this particular time: nor will this appear at all surprising, when we consider, that the little young *embryo*, which just begins to partake of life, must, that moment, be most of all liable to accidents of mortality. But the *embryo*, though it should hap-
pen

ⁿ Liv. I. chap. 21. pag. 171.

^o Ibid. pag. 72.

pen to be dead, is not expelled out of the mother's body immediately; whence a hæmorrhage of the *uterus* may arise in the third month, or sooner, notwithstanding the *embryo*, so small and soft, and after death vanishing into nothing almost, may be contained within the *uterus*, and elude all the dexterity of the midwife's fingers in attempting to bring it away. *Mauriceau*^p candidly acknowledges, that he had observed in women, who reckoned themselves three months gone with child, the abortion to be only no bigger than a bee, and sometimes to equal the size of the largest finger; and the truth of this is daily confirmed by a number of observations. It is true, indeed, there may have been a mistake perhaps as to the exact time of the first conception; but that this mistake in the reckoning should have been so very general, even in women frequently accustomed to be pregnant, can hardly be thought very probable.

Hence in hæmorrhages of the *uterus*, which happen during the first months of gestation, it does not seem at all adviseable, for the reasons already mentioned, to attempt to bring away the *fœtus*; for it is allowed by all, that women rarely die of abortion at this period of pregnancy. Many I have seen preserved by those remedies and management, which have been particularly recommended at § 1307, notwithstanding they have been convulsed from the profusion of the hæmorrhage, and thought by all present just ready to expire.

That a hæmorrhage of the *uterus* during the latter months of gestation, is by far more dangerous, every body must allow, seeing the uterine vessels must be still more and more dilated; and yet even in this case we are by no means entirely to despair of saving both mother and child. A healthy woman, five months gone with child, happened to fall down from the steps of

a

^p Ibid. chap. 4. pag. 80.

a ladder upon a hard stone pavement: there followed immediately a vast hæmorrhage from the *uterus*, and so great indeed, that running with all haste thither, as I lived in the neighbourhood, I found the whole pavement covered with an inundation of blood. Being immediately put into a bed, she fainted away. A skilful surgeon and man-midwife was called, but durst not attempt any thing, as he believed her just on the point of expiring. I then, with great diligence and attention, set about putting in practice the method of assistance recommended at § 1307, and as the attendants about her were careful in observing every thing I advised, to the greatest exactness, she not only had the fortune to escape so great a danger, but also brought forth a healthy child at the full time.

A hæmorrhage of the same sort happened in another woman, who, being six months gone with child, in attempting to get into bed, her legs sliding out from each other, was forcibly driven upon the edge of something extremely hard: her I cured by the very same method, and with like success.

Neither is it also quite certain, at what age a *fætus* must necessarily have no chance of living, as appears from the example of *Fortunius Licetus*^a, whose mother, while she was with child of him, from the jolts and shocks she received in a disagreeable journey, besides the fright she had been put into by a violent storm, miscarried, when she believed herself to be in the seventh month of her pregnancy: when he came into the world, he was no bigger than the palm of one's hand. The father, who was a physician, did not however despair of preserving his son, but with great care cherished his little tender body with the gentle warmth of a furnace, heated to a due degree by the same kind of artificial management almost as the Egyptians used to observe

^a Baillet jugem. des scavants, Tom. V. part. I. pag. 239.

observe in hatching chickens from eggs, without the assistance of the hen: he was very careful in giving instructions to the nurse in what manner to feed the tender creature, and had the good fortune to reap the fruits of his diligent sollicitude and care, in that the child not only grew up to manhood, but became famous for many works of erudition, and had almost reached to the age of fourscore when he died.

From all which we may be allowed to conclude, that our hopes are not to be wholly laid aside, even in the most dangerous cases; neither are we always, for the sake of the mother's safety, to have recourse to the delivery of the *fœtus*; but that the method pointed out by the celebrated *Puzos* is to be preferred, which is far less dangerous, and recommended to our choice by many happy and fortunate instances of its success.

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